DELTA COLLEGE BULLETIN

CATALOG ISSUE • 1971-1972 • UNIVERSITY CENTER, MICHIGAN

1971-1972 GENERAL CATALOG
DELTA COLLEGE

UNIVERSITY CENTER, MICHIGAN

A Publicly Supported Community College Serving the Tri-County Area of Bay, Midland, and Saginaw Counties

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PRESIDENT'S MESSAGE

In an age of pressure-cooker high schools and spiraling college enrollments, two-year institutions like Delta College have turned more and more to instructional innovation as a means of broadening their academic impact.

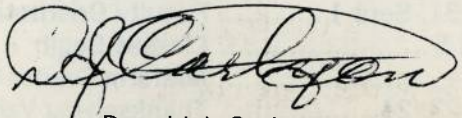
Faculty are exploring the uses of teaching media considered anathema a few years ago. Film strips, developmental slides, audio-tapes, dial access centers, open and closed-circuit ETV, projectors of all types, plus a wide variety of auto-tutorial approaches are contributing to the new evaluation of learning.

Additionally, intensified terms of study bringing together several disciplines in a seminar setting are modifying the mold of traditional periods such as the set semester. We have had very little choice in the matter. Our student enrollment has doubled over the last five years and will double again during the next half-decade. There is no alternative but to develop more effective means of instruction and our use of space, time and other resources.

Our Long-Range Development Program calls for a campus that will serve 14,500 students by 1980. It may even be necessary to revise that figure in light of our current enrollment increases.

There is little doubt in my mind that the community college, specifically Delta College, can and must deliver on the promise of educational services within the reach of everyone. This is our ultimate goal and our ultimate role in society.

Faithfully,



Donald J. Carlyon
President

COLLEGE CALENDAR 1972-1973

CALENDAR 1972

WINTER TERM

Mon, Tues, Wed	Jan 3, 4, 5	Registration
Thurs	Jan 6	Classes Begin
Thurs	March 2	Midterm Grades Due
Fri	March 31	Good Friday, Recess 12 Noon
Fri	April 14	Classes End
Mon, Tues, Wed	April 20, 21, 22	Final Exams
Mon	April 24	Grades Due 11: a.m.

SPRING TERM

Thurs, Fri	April 27, 28	Registration
Mon	May 1	Classes Begin
	Memorial Day	No Classes
Wed	June 21	Classes End
Fri	June 23	Grades Due

SUMMER TERM

Fri	June 23	Registration
Mon	June 26	Classes Begin
	Independence Day	No Classes
Wed	Aug 16	Classes End
Fri	Aug 18	Grades Due

FALL TERM

Mon, Tues, Wed	Aug 28, 29, 30	Registration
Thurs, Fri	Aug 31, Sept 1	Faculty Orientation
Tues	Sept 5	Classes Begin
Wed	Nov 1	Midterm Grades Due
Thurs, Fri	Nov 23, 24	Thanksgiving Vacation
Wed	Dec 13	Classes End
Thurs, Fri, Mon	Dec 14, 15, 18	Final Exams
Wed	Dec 20	Grades Due 4:00 p.m.

CALENDAR 1973

WINTER TERM

Wed, Thurs, Fri	Jan 3, 4, 5	Registration
Mon	Jan 8	Classes Begin
Wed	March 7	Midterm Grades Due
Tues	April 17	Classes End
Wed, Thurs, Fri morning	April 18, 19, 20	Final Exams
Mon	April 23	Grades Due 9:00 a.m.

SPRING TERM

Thurs, Fri	April 26, 27	Registration
Mon	April 30	Classes Begin
	Memorial Day	No Classes
Wed	June 20	Classes End
Fri	June 22	Grades Due

SUMMER TERM

Fri	June 22	Registration
Mon	June 25	Classes Begin
	Independence Day	No Classes
Wed	Aug 15	Classes End
Fri	Aug 17	Grades Due

FALL TERM

Mon, Tues, Wed	Aug 27, 28, 29	Registration
Thurs, Fri	Aug 30, 31	Faculty Orientation
Tues	Sept 4	Classes Begin
Wed	Oct 31	Midterm Grades Due
Thurs, Fri	Nov 22, 23	Thanksgiving Vacation
Wed	Dec 12	Classes End
Thurs, Fri, Mon	Dec 13, 14, 17	Final Exams
Wed	Dec 19	Grades Due 4:00 p.m.

TABLE OF CONTENTS

General Information 9

Admissions and Financial Information 13

Academic Information and Regulations 17

Student Services and Student Activities 21

Programs of Study 27

Transfer Programs 27

Career Programs 33

Course Descriptions 49

Community Services 80

Faculty 83

Administrative Staff 91

Counselors 93

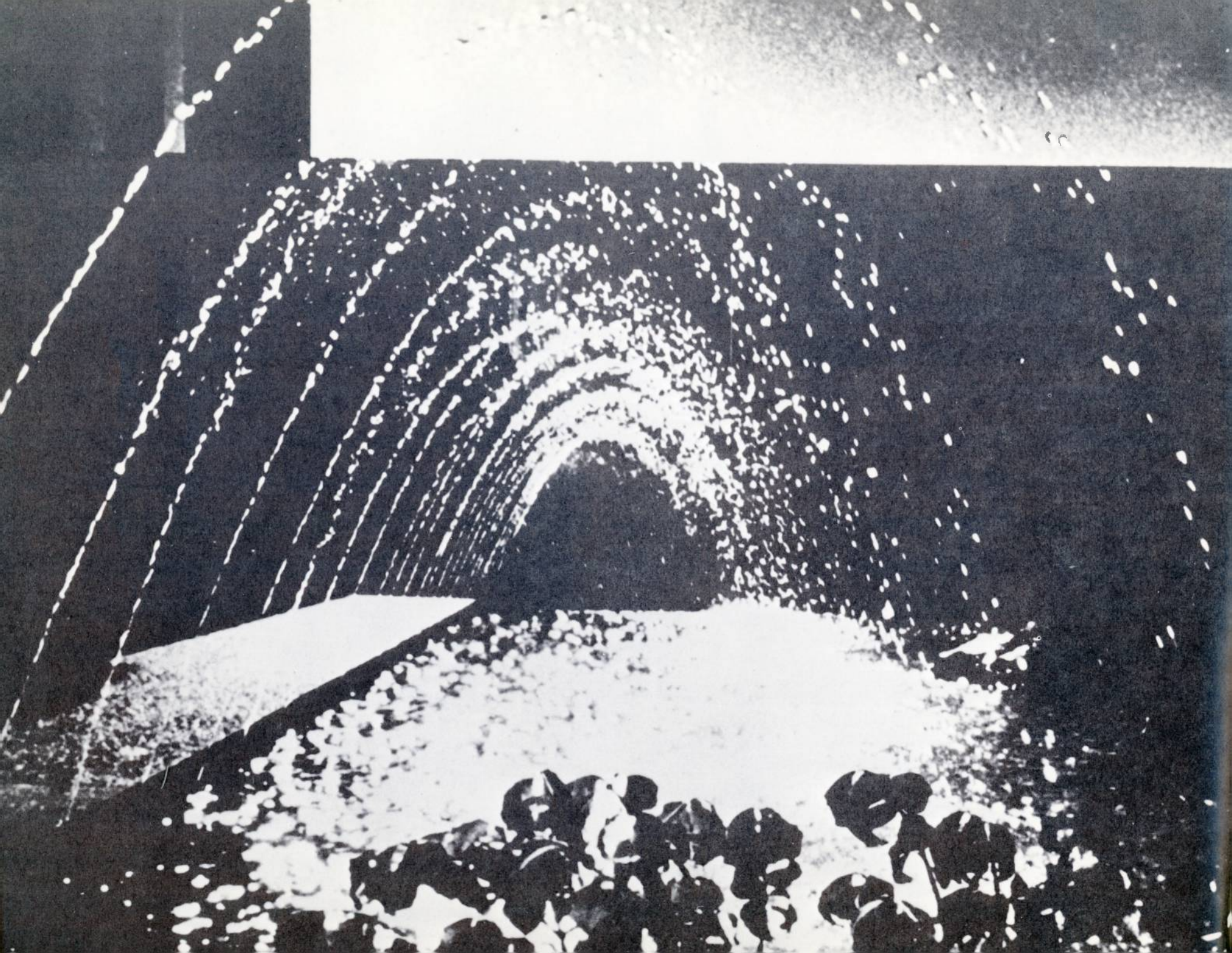
Support Staff 94

Index 95

Delta College is a community college with comprehensive aims and objectives determined by the people of Michigan, the citizens of the Delta College District, the faculty, staff, and Board of Trustees. The College is dedicated to the immediate educational needs of the Delta community and also to the present and future educational needs of all its constituents above high school age regardless of age or previous academic achievement. Delta College is further committed to continue and expand its participation in the social, cultural, and economic development of the Delta Community.

More specifically, the mission of Delta College is to provide the following educational services:

- Transfer courses designed to provide lower division and pre-professional programs which prepare students for entry into the four-year institutions of their choice.
- Technical, vocational, and semi-professional programs designed to prepare students for employment upon completion of such programs.
- Continuing education designed to provide an expanding opportunity for vocational growth and development.
- Guidance and counseling services to students in the areas of educational, social, personal, and vocational development.
- Cultural programs and services designed to enrich the life of the community and its citizens.
- Additional services designed to make the Delta College faculty and staff available to the tri-county area for consultation, coordination, assistance, and participation in the social, economic, cultural, and educational betterment of the Delta Community.



Origin, History, and General Purpose of Delta College. Delta College, a comprehensive community college, opened in 1961 after six years of planning and study. The meetings of representatives of the three counties in which the proposal for the College was developed began in 1955. Legislation was submitted to the State of Michigan in 1957, and in the same year the voters of Bay, Saginaw, and Midland Counties formed a community college district under Act 182 of the Public Acts of 1957 for the purpose of financing, building, and operating a new institution of higher learning. The three counties, with a population of 400,000 people, represent one of the rapidly growing sections of the State.

Because the College is locally financed, special consideration is given to students whose legal residence is in the tri-county area. Tuition charged for these students is substantially lower than that charged for others living outside the tri-county area.

Though Delta College is a new and independent institution, it is maintaining without interruption the educational opportunities previously offered at Bay City Junior College, which was established in 1922 by the Bay City Board of Education and was open to non-resident students at a modest non-resident tuition charge. In September 1958, the tri-county college district was formed and the district paid the Bay City Board of Education the difference between the resident and non-resident tuition for students in the three counties not in the Bay City district. This arrangement continued for three years, from September 1958 through August 1961. During this time the members of the staff and faculty of Bay City Junior College assisted in planning for the new college and at the opening in September 1961, the Bay City Junior College faculty became part of the faculty of Delta College. In May 1958, the tri-county college board voted unanimously to make the alumni of Bay City Junior College alumni of the new college. Microfilm copies of Bay City Junior College records are now maintained at the Bay City Board of Education.

Location and Environment. The campus is located in the approximate center of the triangle formed by Bay City, Midland, and Saginaw, but somewhat nearer to Bay City than to the other two cities. It consists of a tract of 640 acres and is bounded by Mackinaw, Hotchkiss, Four Mile, and Delta Roads in Bay County. The buildings are situated in the center of this section.

The main portions of the central building, including the Library, the Commons, and two Concourses, surround a landscaped open court one acre in area. Other areas in the central building and in ten wings accommodate faculty and administrative offices, classrooms, science laboratories, a gymnasium seating 3,000, a small auditorium seating 266, a book store, and a technical area including educational television studios, crime, X-ray and auto-tutorial nursing laboratories, a data processing center, language and audio-visual centers and other technological aids. The open-circuit public television station of Delta College, operating on Channel 19 (WUCM-TV), is located in a separate area of the college. On-campus dormitories house 160 students. There are parking areas to accommodate 3,000 cars.

A Multi-million Dollar Campus Expansion Project is presently underway including a Fine Arts Complex; Vocational-Technical Center, at the post-high school level; Para-Medical Building; College Center; T.V. and Theater Complex, and additional Physical Education facilities.

Accreditation and Institutional Affiliations. Delta College is accredited by and is a member of the North Central Assocation of Colleges and Secondary Schools. Delta College is also a member institution of the American Association of Junior Colleges, the Michigan Association of Junior Colleges and both the American and Michigan Association of Collegiate Registrars and Admissions Officers. Additionally, Delta College is a member institution of the Michigan Academy of Arts, Sciences & Letters.

National League for Innovation. Delta College is a charter member of the National League for Innovation in the Community College. League membership includes fifteen of the most innovative community college districts in the nation. The stated aim of the League for Innovation is to encourage and evaluate innovation and experimentation designed to improve all aspects of college operation.

Membership in the League constitutes a significant recognition of the Delta College District comprising Bay, Saginaw, and Midland counties. As a charter member, Delta College is committed to:

(1) a program of innovation, experimentation and improvement.

(2) willingness to share the fruits of such innovation.

(3) a cooperative program with other districts on the solution of common problems.

(4) an evaluation of experimentation and the application of the results of innovation in the orderly operation of the district's programs.

The President of Delta College serves as a member of the Board of Directors of the League for Innovation. Delta College has assigned itself the task of developing instructional innovations to broaden the institution's educational impact.

A sampling follows:

Auto-Tutorial Nursing (multi-media)
Team Teaching Geography
Intensified Learning
Open Circuit Television Instruction
Computerized Evaluation and Analysis
Off-campus Education Services
Interdisciplinary Travel Seminars
Integrated Basic Science for Allied Health Students
Institutional Research
Developmental Reading Program
Expansion of Independent Study Programs
President's Credit Seminar in Contemporary Problems
Para-Professional Student Services

Institutional Affiliations. Delta College's accreditation provides academic affiliation with state and outstate colleges and universities, thereby insuring Delta students easy and rapid transferability. To further insure this status, Delta College maintains liaison with transfer institutions by preparing, with their assistance, curricula guides indicating specific academic requirements. Moreover, with their help, Delta College follows through on students' progress once they have transferred.

Delta College Credit Programs. Programs of study in Delta College day and evening course work are designed to serve students above high school age with a variety of interests and objectives.

The student who aims to complete liberal arts studies supplemented by appropriate specialized subject matter courses which will prepare him for major concentrations and professional objectives at the senior college of his choice should plan to follow the curriculum outlined for that institution as he earns an associate degree at Delta College.

The student who aims to prepare himself directly for employment should enroll in a technical-vocational associate degree curriculum or a certificate curriculum.

The student who wishes to enroll in courses to satisfy personal interests or to strengthen occupational competencies may do so without enrolling in a particular curriculum.

The student who is deficient in preparation for the program of his choice may enroll in courses designed to provide that preparation.

Admission procedures are designed to furnish the student and Delta counselors with information necessary to plan the student's initial program.

The Programs of Study section of this catalog contains general information on transfer programs in addition to specific requirements of the major colleges and universities in Michigan. Technical-vocational curricula are outlined in the Course Description section.

Continuing Education. Questions concerning semester offerings can be directed either to Student Services or to the Associate Dean for Continuing Education. Delta not only offers its district service through its Continuing Education course work, it also accepts service from the community by hiring professional people from the area to teach on a part-time basis. Through its thorough consideration of these people's training, professional activities, and work-related experience, Delta insures that a Continuing Education course is commensurate with day courses in academic objectives set forth, instruction given, and totality of program offered.

COMMUNITY SERVICES

Introduction. Community services have existed at Delta College since 1961. A specific direction was determined by the college Board of Trustees when the Office of Community Affairs was established in 1967. The activities described reflect the intent of Delta College to become a relevant part of the lives of the men, women, and children in the counties of Bay, Midland, and Saginaw.

Community Services include educational, cultural, recreational, support and research programs. Although these programs and services are frequently considered to be beyond academic classes and student activities, the fact that both students and faculty actively participate is an indication of our commitment to social relevancy.

Present Community Services

Community Education Programs
Women's Education Programs
Conference Development
Advisory Committees
Cultural Activities
Public Television (WUCM-TV)
Career Training Programs
Public Relations Designs
Student Volunteer Program
Planetarium
Speaker's Bureau
College Tours
Travel Programs
Community Research
In-Service Training
Institutes, Seminars, Workshops
General Consulting

The Community Services Team

Advisory Committee Development ..... Faith S. Hinton, Director
College Relations ..... John H. Krafft, Director
Community Education Programs ..... Ronald J. Crossland, Assistant Dean
Conference Coordination ..... John Briggs, Director
Research & Development ..... Martin P. Wolf, Director
Women's Education Programs ..... Marguerite B. Saro, Director
Planetarium Programs ..... Westbrook Walker, Director
Student Volunteer Programs ..... Robert Roman, Chief Faculty Advisor
WUCM-TV Channel 19 Television ..... William Ballard, Director
Office of Community Affairs ..... Karl F. DuBois, Dean

(For Further Information see page 80)

Who to Contact—at Delta College

Activity (Join one)	Director, Student Activities
Add a course	Office of the Registrar
Application (MCCC)	Admission Office
Application (Other school)	Counseling, Student Services
Average (Grade point)	Office of the Registrar
Certificate requirements	Counseling, Student Services
Change courses	Advisor or Counselor
Change program	Counselor
Change sections	Office of the Registrar
Credits (Accumulated worth)	Registrar
Degree requirement	Counselor, Student Services
Draft (Status, deferment)	Office of the Registrar
Drop a course	Office of the Registrar
Employment (See "Job")	Placement Office
Found (see "Lost and Found")	Student Services
Illness or injury (Immediate treatment)	Health Services
Incomplete grade	Instructor
Job (On or off campus)	Placement Office
Loan (Grants)	Financial Aids Office
Lost and Found	Student Services
Military (see "Draft")	Office of the Registrar
Personal Problem	Counselor, Student Services
Public Relations	College Relations Office
Refund (Tuition)	Business Office/Registrar
Registration	Office of the Registrar
Scholarships	Financial Aids Office
Social & Cultural Event Tickets	Student Services
Social Security Benefits	Office of the Registrar
Sports (See "Intramural" or "Varsity")	Director, Phy. Education
Transcript	Office of the Registrar
Transfer (To another college)	Counselor, Student Services
Transferability	Counselor, Student Services
Tuition deposit	Cashier
Varsity Sports	Coach, (specific sport)
V.A. Benefits	Office of the Registrar
Withdrawal from College	Registrar's Office & Counselor

LEARNING RESOURCES CENTER.

The Library of Delta College is a part of the Learning Resources Center and operates as an integral part of the educational program. Books, journals, magazines, newspapers, microfilm, records, and other types of library materials and audiovisual equipment are available for student use. The east concourse is a Learning Resources Study area. Acquisition of materials, and planning for the operation of the library started two years before the college opened. At present the collection numbers more than 70,000 volumes with back files of periodicals maintained either in bound print or on microfilm. The standards of the Association of College and Research Libraries, a section of the American Library Association, were met from the start of operations. The library is also a selective government depository; a number of United States government periodicals and series are received as these documents are published.

The Audio-Visual Division of the Learning Resources Center provides the equipment and materials used in all the programs of the college. The latest and finest equipment is available through this section of the Learning Resources Center. This section also maintains two audiovisual laboratories for individual instruction and study.

The Graphics Division of the Learning Resources Center provides art and photographic work for the entire college. With an artist and a photographer available, this division provides an important service for the learning environment of Delta College.

The Learning Resources Center provides a book-locator service for faculty and students. This service will procure, through purchase or borrowing, almost any book needed by a student or a faculty member.

ADMISSION

Admission to Delta College. All high school graduates whose legal residence is in-district (Saginaw, Bay or Midland County) are eligible to apply for admission to Delta College. Non-district applicants are also eligible to apply. Acceptance is based upon previous academic work, a record of good citizenship, and an expressed sincere desire for additional education. Because of diverse curricular offerings, Delta College is able to serve students of varying backgrounds. It is essential, however, that the student be well prepared for the curriculum he wishes to follow. To this end, the results of placement tests, the high school records, and requirements of the curriculum are carefully considered by the student and his Delta Counselor. An admissions classification system, on the basis of the student's educational background and potential abilities, is used for proper placement of the student in classes. Students will be classified for admission purposes in one of the following categories: (1) regular admission, (2) provisional admission, (3) special admission, (4) guest admission, (5) transfer admission.

(1) Regular Admission. The applicant must submit a transcript of credits from an accredited high school, or its equivalent, and demonstrate his potential to pursue college level study as determined by high school achievement.

(2) Provisional Admission. Applicants whose educational background needs strengthening in certain areas are normally admitted on a provisional basis and may be limited to twelve credits. Students admitted provisionally may be required to supplement their background and achievement before being classified as regular students. Provisional students shall become regular students after demonstrating ability to do college level work.

An applicant submitting acceptable high school equivalency scores on the General Educational Development Test will be considered for provisional admission after evaluation of his previous high school record and his achievement on the G.E.D. Tests.

Delta College is a testing center for the G.E.D. tests. Arrangements to take these tests may be made at the Student Services Office. It is recommended that students complete their high school certificates where opportunity exists to do so.

(3) Special Admission. Special students include early entrance high school students, students with incomplete admission materials, and degree holding students who wish to be admitted to specific courses.

(a) Early Entrance for High School Students. High School students admitted for early entrance may be admitted to specific courses with the permission of their high school principal and when their records of high achievement and potential satisfy the prerequisites for the specific course elected.

(b) Degree Holding Students. Applicants holding college degrees may be admitted for particular courses if they satisfy the prerequisites of these courses.

(c) Incomplete Admission. Special students may be admitted prior to the completion of the admissions requirements upon approval of the Director of Admissions. Such students will be required to complete admission requirements by the end of the semester to determine their status for the next semester.

(4) Guest Admission. Students enrolled in other institutions who wish to attend Delta College as guests may submit an approved Michigan Uniform Undergraduate Guest Application and pay all matriculation and advance deposit fees required by Delta College. Guest student applications may be secured either from the Delta Admissions office or from the registrar of the institution at which the student is enrolled.

(5) Transfer Admission. Transfer students are admitted to Delta College on an individual basis. All procedures applicable to the admission of new students will be followed. Additional procedures require the submission of all academic records and a Personal Evaluation Form from each institution attended. After admission all requirements of Delta College must be met. Transfer students with academic achievement of less than "C", if admitted, will be admitted on probation. Transfer students should submit the records of their academic achievement as early as possible so that the records can be evaluated prior to counseling and preregistration course selection. Transfers from regionally accredited institutions with "C" or better and with sophomore standing are excused from placement tests.

Admission of International Students. International student applicants will generally follow the admission procedures for regular students. Delta College requires that international students be proficient in the English language before entering course work. An additional test may be required to establish the fact of proficiency before admission. International students are admitted on an individual basis and should contact the Director of Admission concerning the specific procedure which they should follow. Upon acceptance to college, a form I-20 will be issued to facilitate receipt of a student visa.

It is the student's responsibility to arrange for a student visa through the United States Immigration and Naturalization Service. International students should contact the nearest United States Embassy for information and procedures regarding the procurement of a student visa. Each student will be required to purchase student insurance on registration day unless adequately covered by a health protection plan and the student must assume all financial obligations incurred while attending Delta College, including travel to and from his homeland. Delta College assumes no financial responsibility for any student and no special funds are set aside for international students. Admission to Delta College is open to all students who meet admission requirements regardless of race, creed, or color.

Procedures of Application to Delta College. Application materials may be secured at local high schools, or from the Office of Admissions.

Former Delta Students who wish to re-enroll in the college need to request re-admission prior to re-enrolling. Re-admission applications may be secured from the Admissions Office.

A. Procedures of Application

1. Fill out application.
2. Request the high school to submit a transcript of credits and a personal evaluation form.
3. Request a transcript of credits and a personal evaluation form for all post-high school education from the registrar of each institution previously attended.
4. Submit the $10.00 matriculation fee.

In order for an application to be processed, it should be accompanied by a $10.00 matriculation fee. The matriculation fee is a one time only fee and will not be refunded unless a prospective student is refused admission by Delta College.

B. Procedures for Re-Admission

1. Fill out re-admissions application.
2. If applicable, request a transcript of credits and a personal evaluation form for all post-high school education from each institution previously attended.

Admission Notification. Notification of admission, re-admission, or denial may be expected within two weeks after receipt of application by the college.

TUITION INFORMATION

Advanced Tuition Deposit. An advance tuition deposit of $20.00 is required and should be paid during pre-registration period. The advance tuition deposit may be refunded if the prospective student cancels his application and requests a refund in writing, at least one day prior to the first day of registration.

Tuition and Fees	In District	Out District	Out State
Tuition per Credit Hour (day and evening)	$10	$20	$30
Late Registration	$5	$5	$5
Transcripts (first)		No Charge	
(additional copies)	$1	$1	$1

The full tuition for each student is due at registration time. There is no system of deferred payments. Students must complete their registration by paying their tuition in full on the day they register.

Student loans are available through the Financial Aids Office, but application for such loans must be made well in advance of registration.

TUITION REFUNDS

Withdrawal From College. After tuition has been paid and classes have begun, the following schedule will be used to determine tuition refunds. In the Fall and Winter semesters, if a student withdraws during the:

First Week 80%
Second Week 60%
Third Week 40%
Fourth Week 20%

No refund will be made after the fourth week.

Withdrawal refunds for the Spring Semester will be made as follows if withdrawal occurs during the:

First Week 80%
Second Week 40%

No refund will be made after the second week.

Dropped Classes. After tuition has been paid and classes have begun, refunds for dropped classes (partial reduction of class load) will be made as follows:

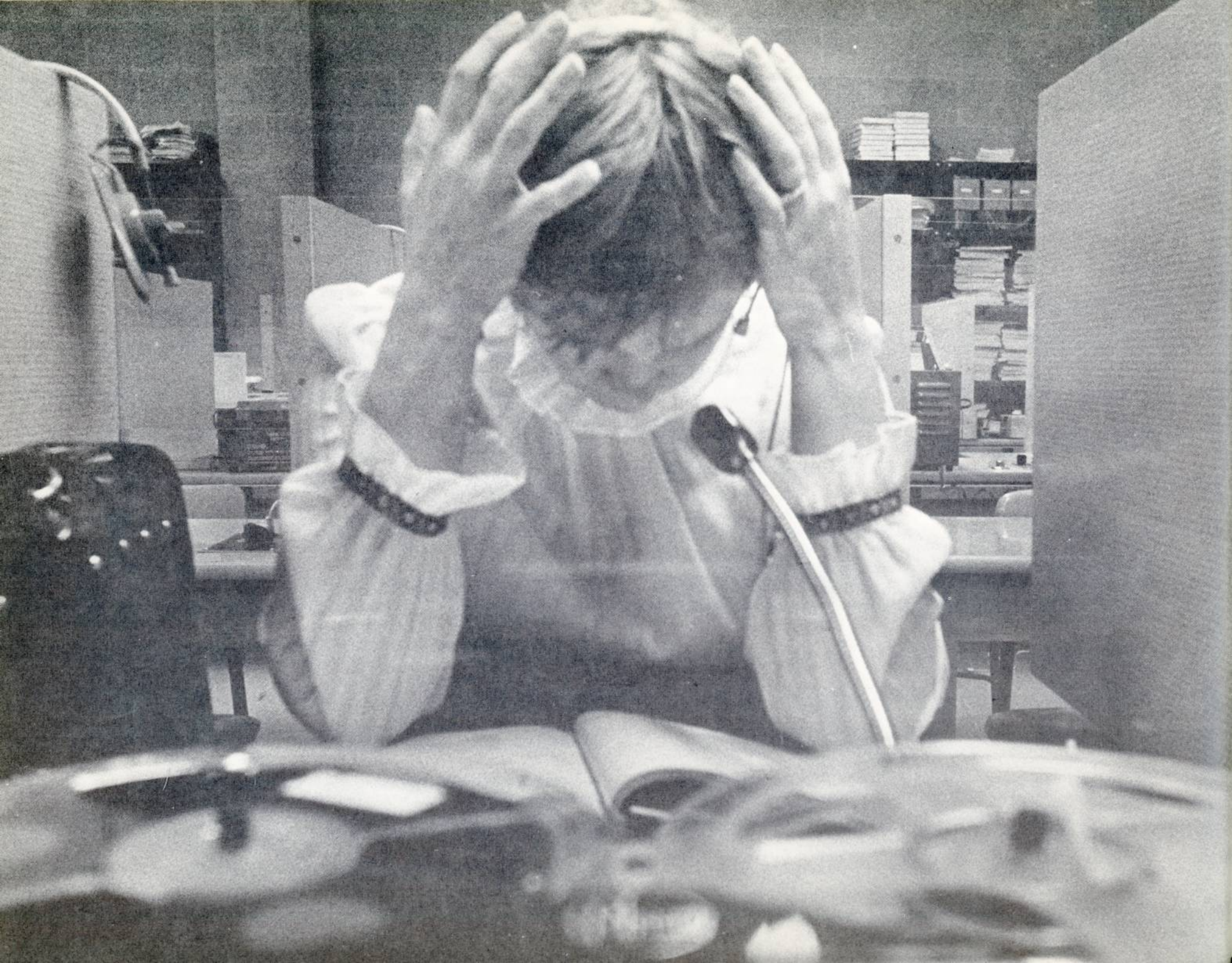
First Week 100%

NO refund for dropped classes after the first week.

The tuition refund policy for withdrawal from college and dropped classes applies to full-time, part-time, and evening students.

Residence Qualifications. In order to qualify as a resident of the Delta College District for tuition purposes, a student must be a bona fide resident of either Bay, Midland, or Saginaw County.

Refund Policy for Eligible Persons Authorized by the Veterans' Administration. As part of the Veterans' Administration regulation for training veterans under Public Law 634, Delta College has and maintains a policy for the refund of the unused portion of tuition, fees, and other charges in the event the eligible person fails to enter the course or withdraws or is discontinued. This policy provides that the amount charged to the eligible person for tuition, fees and other charges for a portion of the course shall not exceed the approximate pro rata portion of the total charges for tuition, fees, and other charges that the length of the completed portion of the course bears to its total length.



The Three-Semester Plan. The three-semester plan was adopted by the Delta College Board of Trustees as a means of developing year-round operation of the College. The plan makes possible fuller utilization of facilities, gives students more flexibility in long-range course planning, and enables students to complete their academic programs in a shorter period of time.

The Fall, Winter and Spring semesters are each composed of fifteen weeks, and each covers a full semester's work. The Spring semester beginning in April is a split-semester divided into two separate parts, each seven and one-half weeks in length as well as running for fifteen weeks. This multi-semester meets the needs and desires of a great number of students.

Freshman courses for high school graduates who wish to begin college prior to enrollment in the Fall semester are offered in the second half of the Spring semester. Selected courses for various curriculum will be offered as justified by demand.

The two-year academic program offered by Delta College can be completed in one and one-third calendar years. Specifically, a freshman entering in September of one year can complete four semesters by the end of December in the next calendar year; by entering in January he can finish two academic years by April of the following year; and by entering in April he can finish two academic years by August of the following year. However, students are not required to follow so concentrated a program, and course offerings are arranged to meet varying semester attendance patterns.

Class Attendance

1. Attendance is expected at all classes. There is no system of cuts.

2. Courtesy demands that students explain the reasons for their absences to their instructors.

3. It is the responsibility of the student to make definite arrangements for all work before going on field trips or other college sponsored events. If proper credentials for such activities are presented and arrangements made for the work before the event, then the absence should not be reported, but should be recorded in the instructor's records as explained.

4. Except in cases involving field trips or school activities which involve group absences no instructor will require statements from students concerning absences.

Grades and Grade Points. The following grading system will be used in college credit courses:

A—Excellent
B—Good
C—Fair
D—Poor
E—Failed
I—Incomplete
W—Withdrawn
X—Audit

The grade point system will be as follows: For each hour of credit of

A—4 grade points
B—3 grade points
C—2 grade points
D—1 grade point
E—No grade points

In calculation of the overall grade point average, the number of E hours must be included, although no grade points are allowed.

An "I" (incomplete) grade is granted by special arrangement with the student's instructor. A final grade will be assigned by the instructor at the expiration date of the incomplete deadline.

Repeat Courses. The highest grade (A,B,C,D, or E) received by a student for any given course shall be the grade used in his cumulative grade point average of all college work taken by the student. All other grades shall remain in his transcript and will be designated by the Registrar's Office so people will know they are not being counted.

Audit: A student may enroll in credit courses as an auditor with audit credit earned for the course. A mark of "X" will be recorded on his permanent record if general requirements of auditing are fulfilled. These are:

1. The student must have a student number (Be matriculated.)
2. Fees for the course are the same as credit classification.
3. Course objectives must be fulfilled, other than quizzes or examinations. These may be taken with the approval of the instructor.
4. Once a course is started on an audit basis a student may, with the approval of the instructor, change to credit within eight weeks of the beginning of the semester. Procedures should be carried out through the Registrar's Office.

Non-Degree Credit: A person may take a course for Non-Degree Credit and not be required to have a student number (be matriculated) but is expected to meet course objectives other than tests or exams. Course tuition is the same for non-degree credit or credit.

Academic Standing. Any student deficient more than five honor points but less than sixteen honor points will be placed on probation. Incoming transfer students who are on probation must maintain a 2.0 average or they will be subject to dismissal review. In no instance will a student be awarded an associate degree with less than a 2.0 (C) cumulative grade point average in a Delta College Associate Degree curriculum.

Any student who is deficient more than fifteen honor points will automatically have his academic record reviewed by the Committee on Academic Standing. The Committee will decide whether the student is permitted to enroll the following semester.

Right of Petition for Re-Admission. A student who is dismissed for academic deficiency may immediately submit a written petition for reconsideration to the Committee on Academic Standing if he feels that his failure to achieve satisfactory academic performance was caused by unusual personal circumstances. A student who has been dismissed must remain out of school for at least two full semesters after disqualification unless readmitted by the Committee on Academic Standing.

Withdrawal from College. To withdraw from College, the student must secure a withdrawal form from the Registrar's Office and process it according to directions. Failure to secure a withdrawal form or to process it according to directions may result in the student receiving grades of E.

Classification of Students. Students who have earned fewer than 24 semester hours are classified as Freshmen. Those who have earned 24 or more semester hours are classified as Sophomores. Students enrolled for 12 or more semester hours of course work (including physical education) will be classified as full-time students. Students enrolled for fewer than 12 semester hours will be classified as part-time students.

Changes in Program of Studies after Registration. Students are expected to complete the courses in which they register. If a change is necessary, students must file an approved drop or add card at the Registrar's Office. The student's decision to discontinue a course must be properly approved in the Student Services Office and is not officially recorded until a drop and add card has been completed, and is on file. The date this form is approved by the Registrar's Office is the date used to determine eligibility for a tuition refund.

Added Courses. In general, no course may be added after the first week of the regular semester, or after the third day of a split third semester. (See Registrar's Office for procedure)

Dropped Courses. For courses officially dropped in the first week of a regular semester or within the first three days of a split third semester, no grade will be reported or recorded. If the course is dropped between the second week and the tenth week a student will receive a W grade. After the 10th week through the 15th week the grade will be an E, or W grade (if warranted) at the discretion of the instructor and providing proper withdrawal procedures are completed.

Final Examinations. Two-hour final examinations are required in all courses except physical education. Final examinations in physical education courses will be given during the last week of the semester prior to the examination days in academic subjects. No student will be excused from taking a final examination. Before the end of each semester a schedule of two hour final examinations will be announced.

Academic Record. A permanent record of a student's grades is maintained in the Office of the Registrar. Upon the request of a student, a transcript of the student's record at Delta College will be sent directly to any college, university, or prospective employer designated by the student. No charge is made for the first transcript; a one dollar charge is made for each subsequent transcript.

Recommendation for Transfer. If in addition to a transcript, a student needs a recommendation to the receiving institution, he should present his application to a counselor in the Student Services Office. The recommendation from Delta College will be based on the total information concerning the individual student and not on academic achievement alone. Transfer rules vary with each institution, and for specific information on the requirements for transfer, the student should refer to the Programs of Study section in this bulletin, to the catalog of the college or university which he expects to enter, to his adviser, or the Student Services Office.

ASSOCIATE DEGREES OR CERTIFICATES

One of the following will be awarded to a student who completes the requirements:

Associate in Arts Degree
Associate in Science Degree
Associate in Applied Science Degree
Associate in Business Studies Degree
One or Two Year Certificates in Occupational Programs

Graduation Requirements. The Associate Degree requirements listed below are effective with the class entering Delta College in the Fall of 1965 and thereafter until such time as the Board of Trustees and the faculty change the requirements. Students who enter Delta College prior to the Fall of 1965 will be permitted to graduate under degree titles in effect prior to that time. Associate Degrees are granted only upon recommendation of the faculty and the Board of Trustees.

Requirements for the Associate Degrees

General Requirements

Candidates for the Associate Degree must meet the following requirements:

1. Earn a minimum of 24 semester hours of credit at Delta College. The student must be enrolled at Delta while earning the final credits to complete this requirement.
2. Earn a minimum of 60 semester hours, exclusive of Physical Education.
3. Earn a 2.0 (C) cumulative grade point average in a specific curriculum.
4. Earn two semester hours in Physical Education courses (unless officially excused).
5. Earn a minimum of three semester hours in Political Science as required in Act 106, Public Acts of 1954, State of Michigan.

For the Associate in Arts Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or the equivalent.
3. Group requirements in all three groups must be fulfilled.

I Humanities	6-8 credit hours
II Social Science	6-8 credit hours
III Science	6-8 credit hours

The requirements in all three groups must be fulfilled.

For the Associate in Science Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or the equivalent.
3. Group requirements

I Humanities	6- 8 credit hours
II Social Science	6- 8 credit hours
III Science	20-24 credit hours

Either the Humanities requirements or the Social Science requirements, but not both, must be fulfilled. The Science requirement must also be fulfilled.

For the Associate in Applied Science Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or the equivalent.
3. Satisfactory completion of one of the technical curricula or the Nursing Curriculum, Law Enforcement, Radiologic Technology, Dental Assistant.

For the Associate in Business Studies Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or in Business Communications.
3. Satisfactory completion of a business curriculum.

Definition of Group Requirements

Group I Humanities:
American Literature, English Literature, Art Appreciation, Drama, Music Appreciation, Languages (French, Spanish, German, Russian), Philosophy, Speech, History 111 and History 112#

Group II Social Science:
Economics, Geography*, History, Political Science, Psychology*, Sociology, History 111 and History 112#

Group III Science:
Biology, Chemistry, Geography* and Geology, Mathematics, Physics, Physiology, Psychology*

* Geography and Psychology may be included in either Group II or Group III but may not be counted in both groups.

\# History 111 and History 112 may be included in either Group I or Group II but may not be counted in both groups.

Certificate Requirements: Satisfactory completion of a certificate curriculum.

Graduation Honors. A student is graduated with highest honors if he has completed his curriculum with a cumulative grade point average of 3.8 or higher.

He is graduated with high honors if he has completed his curriculum with a 3.50-3.79 cumulative grade point average.

Honors graduates are those with a 3.2-3.49 cumulative grade point average. Transfer students are eligible for graduation honors if they have completed the last 24 credit hours at Delta College.

Honors. Each semester a Dean's List containing the names of all students who have current grade point average of 3.5 or higher in 12 hours of work during a Fall or Winter Semester or 6 hours, during a Spring or a Summer Semester will be issued.

Student Conduct. Students are expected to set and observe a proper standard of conduct. Failure to show respect for order, morality, personal honor and academic duty demanded of a good college citizen shall be deemed sufficient cause for dismissal from the college.

Student Responsibility for Catalog Information. Students are held individually responsible for the information contained in the catalog. Failure to read and comply with college regulations will not exempt a student from such personal responsibility.

STUDENT SERVICES

The Student Services division at Delta College believe that while the intellectual development of the student is of great importance, the social, cultural, and physical aspects of the individual are an inseparable part of his development. Therefore the college provides a climate in which this total growth is encouraged and made possible. Services are provided which contribute to this development and which complement the student's academic program. Student Service's functions are of a diversified nature. They are administered through the office of the Dean of Students. This office is also in charge of student counseling and testing.

Education, Vocational, and Personal Counseling. Professionally trained counselors are available in the Student Services Office to give assistance with problems of an educational, vocational, financial, or personal nature. The first contact with a counselor is previous to a student's first enrollment. At that time, his vocational and educational plans are discussed briefly and his choice of courses made. After enrollment, his counselor is available as often as necessary to help him in learning about his aptitudes and interests, to further develop his vocational plans, to aid in increasing self-understanding, and to assist in personal problems. This is usually done by individual interview, but sometimes group sessions are also helpful in many of these areas.

Another source for assistance is the faculty adviser who is assigned to each student according to his academic interest. The primary assistance given by the faculty adviser is help in the selection of courses for the following semester and information about his particular academic specialty.

Resource materials, such as college catalogs and vocational literature, are available in the counseling office and in the College library.

Testing. Delta College participates in the American College Testing Program; therefore, the test is offered on prescribed dates in accordance with provisions of the nationwide schedule. All full-time students are required to take the ACT battery; information regarding dates and procedures for registering can be obtained from the College Testing Office. All part-time students are encouraged to take the Delta Battery for counseling and placement purposes. Dates on which this is given can be obtained from the Testing Office.

The General Educational Development Test (G.E.D.) is administered through the Student Services Office by individual appointment and at a nominal fee. This test is designed for persons who have not received a high school diploma and who seek certain programs of study, or employment, particularly civil service positions.

Orientation Services. For Freshmen, an orientation program is conducted during the summer and early in each semester as a means of introducing new students to college life and academic study. Through this program students are acquainted with the facilities of the college and introduced to academic and non-academic activities. College standards and policies are discussed in an orientation assembly and students are encouraged to participate in all phases of college activities.

As a means of orientation to academic study beyond Delta College, a liaison with the four-year state institutions is maintained in order to provide students with the necessary information to prepare for transfer to a baccalaureate degree program. In the sophomore year, interviews with senior college representatives for assistance in application for transfer are scheduled.

Registration. Registration procedures for Fall, Winter, and Spring-Summer Semester are described in the Class Schedule Catalog each semester. Information can also be secured from Student Services or the Registrar's Office.

Health Services. Delta College maintains a health center which is equipped to provide emergency treatment and check minor health problems. A registered nurse is on duty from 8:30 a.m. to 10:30 p.m. on school days, and from 8:00 to 12:00 a.m. on Saturdays. Health and accident insurance is available at a low rate. All international and out-of-state students are required to have health insurance.

Student Housing. The college operates two residence halls for full-time credit students; North Hall for men and South Hall for women. Each Hall houses 80 students in 40 double rooms. Charges include room and board, and meals are taken in the College Commons.

In addition to Delta on-campus housing, Andersen Hall operated by Saginaw General Hospital in Saginaw is available to Delta female students. Nursing students have preference in placement at Andersen Hall. Room cost at Andersen does not include meals. Students living in Andersen Hall may purchase their meals on a cash basis in the hospital and college cafeterias.

Applications for residency in the campus dormitories or Andersen Hall may be obtained from the Housing Office. Students requiring assistance in finding private housing should also contact the Housing Office.

FINANCIAL AIDS

Financial Aids. Financial assistance awarded by the College is based on academic ability, financial needs, guidelines set up by organizations and directions given by the government when applicable. In the determination of financial aid it is expected that the student, together with his parents, will contribute as much as possible to the cost of attending college.

Any student is eligible to apply for financial aid who is a citizen or national of the United States or has such immigration status and personal plans to justify the conclusion that he intends to become a permanent resident of the United States. In accordance with Title VI of the Civil Rights Act of 1964 "No person shall, on the grounds of race, color or national origin be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal assistance."

To be eligible for financial assistance, the student should apply for admission, submit a request for Financial Assistance and provide the necessary evidence of financial need. The evidence of financial need is determined by submission of a Parents Confidential Statement to The College Scholarship Service. These forms are available through high school counselors as well as the Office of Financial Aid.

Five basic types of financial assistance are available to Delta College students. These are loans, college work study, grants, scholarships and on-campus employment.

Loan Funds. Delta College can assist students with loans from several different sources. Application for these loans must be made well in advance of registration.

Funds are available under the National Defense Student Loan Fund. This fund has features which make it exceptionally valuable to students who qualify. The interest rate is low and payments in most cases do not begin until a student's college work is completed. In addition there is a feature providing forgiveness of a portion of the loan for students who enter the teaching profession.

A student/Nursing loan is available to full-time students in the nursing curriculum who exhibit financial need. This loan, too, has a forgiveness feature. Similarly, the Law Enforcement Loan is awarded to qualifying students and has a forgiveness clause.

It is possible for students to obtain personal loans for college expenses from local banks, credit unions and savings and loan associations on limited security by applying through the Michigan Higher Education Assistance Authority.

Delta College also has a short term emergency student loan fund. This fund is supported by contributions received from many individuals and agencies within the Delta College district.

College Work Study. Students who qualify under The Federal Work Study Program may be assigned employment on campus or at participating agencies off campus.

Grants. Grants are available under The Federal Educational Opportunity Grant program for those students who show exceptional financial need. They must be matched by funds from other financial aid programs administered by Delta College.

Law Enforcement grants are available to full-time officers who are employed by a recognized agency approved by the Justice Department.

Scholarships. Nursing scholarships are available to students who show an extreme need for financial assistance and are enrolled full time in the Nursing curriculum leading to an Associate Degree in Nursing.

Funds available to Delta College students in the form of scholarships have been provided through the generosity of interested individuals, firms and organizations. Potential recipients will be selected from among those students who have completed the application procedure for requesting financial aid, have a proven need and meet any special requirements for specific scholarships. Among those scholarships which have been made available to Delta College students are the following:

Alvin Bentley Foundation
American Business Women's Association
American Institute of Architects—Saginaw Valley Chapter
American Production Inventory Control—Saginaw Valley Chapter
Bay City Lions Club
Bay City Panhellenic Fund
Consumerettes
Delta College Women's Club
Mr. & Mrs. Herbert D. Doan Endowment Fund
Dow Chemical Company
Dow Corning Company
Mr. & Mrs. James Gerity, Jr. Broadcasting Trust Agreement
Frances Goll Mills Education Grants
Fred Dulmage, Sr. Fund
Junior League of Saginaw Michigan Inc. Community Trust Fund
Lakehead Pipeline
Leonard Bergstein Memorial
Michigan Farm and Garden Foundation
Michigan Home Builders Association

Midland Panhellenic Fund
National Association of Home Builders
Newcor, Inc.
Saginaw Business and Professional Women's Club
Saginaw Hellenic Society
Seth Babcock Fund
South End Business Men's Association of Saginaw
Tri County Center
Ultra Carbon Corporation of Bay City
United Church of Christ
United States Graphite

Board of Trustees Full Tuition Scholarship is granted to one graduating senior from each of the public and parochial high schools in the Delta College district. These awards are made on the basis of high scholastic achievement and selection is made from the nominations by high school principal. These scholarships provide full tuition for as many consecutive semesters as the student maintains a prescribed standard of scholastic achievement, to a maximum of four semesters.

On Campus Part-time Employment. The Financial Aids Office will assist all students who are seeking on campus part-time employment.

Additional information regarding application procedure or qualification for any of the above programs may be obtained by contacting the Delta College Financial Aids Office.

Veterans Benefits. Students who desire assistance in making application for veterans benefits, either for G.I. Bill benefits or benefits awarded to children of veterans, are requested to contact the Registrar's Office. All forms are available for these purposes in their office.

Social Security. Social Security claims are processed by the Registrar's Office. Students must be enrolled full-time in order to qualify for these benefits. Information is available in the Registrar's Office.

Selective Service. The Registrar's Office is responsible for notifying the various Selective Service boards concerning the status of their students. Each student of draft age is required to complete two Selective Service cards at the time of his registration, one of which is verified and forwarded to his local Draft Board. Information on Selective Service may be obtained from the Registrar's Office.

PLACEMENT SERVICES

Full-time Employment. The Placement Office assists graduating sophomores, alumni, students completing certificate programs, and all other students seeking full-time positions. Students may register with the office, and there is no charge for this service.

While placement in suitable positions cannot be guaranteed to students and alumni, every effort will be made to give the student as much assistance as possible. During the winter semester, many industrial and business employers send representatives to the campus to interview students. Interviews are then arranged for interested students.

Part-time Employment. The Placement Office serves as a clearing house for local businesses and industries seeking part-time help. As soon as a part-time job is received by the office, it is posted on the "Job Market" bulletin board outside the office. Students can then obtain the necessary information from the board to contact the employer for an interview.

Work Related Program. Many curricula offer opportunities for students to accept jobs directly related to their field of study. Jobs of this nature may be arranged on either a half-day basis or on an alternating semester basis. Application may be made through the Placement Office. Business students interested in cooperative education should contact one of the Business Division Cooperative Education Coordinators.

OTHER FACILITIES

Book Store. A modern well-equipped book store, located on the court level adjacent to the Commons, serves students, faculty, and other interested individuals. This facility is open daily.

The Commons. Food services, lounge facilities, and meeting rooms are provided in the Commons area which is located on the court level at the north end of the building.

Bus Transportation. Bus transportation from Bay City, Saginaw and Midland, and return is provided by a private operator. This service allows the student to arrive early each day in time for class and return home at the close of classes.

Parking. Ample parking facilities adjacent to the College building are provided for students, faculty and guests. Regulations and car registrations for parking are provided by the Business Office and explained in detail in the Student Handbook.

STUDENT ACTIVITIES

Philosophy. Delta College as an institution of higher education has a commitment to assist its students to develop in body, mind and spirit. Recognizing a need for a complete and fulfilling educational program, the College has included in addition to its full academic offerings a complete co-curricular activity program. In establishing such a program the College offers students the opportunity to participate as active leaders in the college community.

Co-curricular activities is in allegiance with the educational program of the College; for student activities is a "laboratory" of "creativeness". It is designed to assist young adults in developing their talents in group leadership, music, theatre and/or writing, as well as giving them a sense of total social enjoyment and responsibility.

Through the activities program, students are given a chance to better understand themselves, their fellow students, the faculty and the administration. Delta College has encouraged a variety of student organizations, professional associations and many interest groups, whereby students may be able to develop their talents and interests of their own choosing.

The Student Center was built for the specific purpose of creating an area for the student's enjoyment and relaxation. All students are welcomed and encouraged to utilize the Student Center facilities.

Student Government. The student governing body at Delta College is the Student-Administration-Coalition. It derives its authority and responsibility from the Student-Administration-Coalition Constitution. The basic philosophy of the College is the belief that students must share with the administration and faculty the responsibility for their own total development. To this end they should have opportunities to participate in a variety of activities and should have responsibility for initiation and control of these activities. Several organizations and committees are provided to fulfill this control and to implement the activities program, under the governing of the Student-Administration-Coalition.

The Student-Administration-Coalition is composed of four executive officers, five representatives from the sophomore class, nine freshman representatives and club representatives. The executive officers—President, Vice-President, Secretary, and Treasurer—are elected by a vote of all full-time students during the middle of the Winter Semester. The sophomore representatives are elected a week later. Freshman representatives are elected during the first month of the Fall semester. All executive officers and representatives have one vote. A parliamentarian is chosen from the students at large.

The Student-Administration-Coalition is composed of the following five boards: Activities, Judicial, Public Relations, Publications, and Finance.

The chairmen of the respective boards are appointed from the freshmen and sophomore representatives at large by the President of the S.A.C. Exceptions to this are the appointments of the Activities and Finance Board Chairmen. The appointments are given to the Vice-President and Treasurer of the S.A.C., respectively.

Student Interest Groups. At Delta there are a variety of activities on campus reflecting the diversity of student interest. Delta students are encouraged to form groups which have common interest or hobbies. Recognition of such clubs may be gained by securing the proper application from the Office of Student Activities and petitioning the Student-Administration-Coalition for recognition and funding. Faculty advisors are designated as sponsors upon request of the club. Such groups participate in the areas of art, music, political and international affairs, departmental or professional subject groups. Additional information about any of these organizations and others may be obtained from the Director of Student Activities or his assistant.

STUDENT PUBLICATIONS

Delta College has three student publications: the yearbook, Gnosis; the student literary magazine, Dialogue; and the newspaper, Collegiate.

Gnosis. Preparing the yearbook is the job of a group of dedicated students. They receive no pay but they seem to derive satisfaction from doing their job well. Aside from the restrictions inherent in a yearbook—that it be a record and a history—the editors have a free hand. They select cover and content, color and design, type and stock.

Dialogue. Delta's literary magazine is presently published once a year, but last year's student interest indicates that publication should be increased to once a semester. Contributions of writing, drawing, and photography, come from the student body at large. An editorial board and an art board selects the material to be used from these works.

Collegiate: The Collegiate, official weekly student newspaper, is entirely student produced. It is supported by an allocation from the Finance Board of the College Council and by some advertising revenue.

All of Delta's student publications serve as laboratories for student development and student-directed activity. They reflect the co-curricular activity and philosophy in giving students an opportunity to put into practice outside of class what they may have developed in class. Delta students are encouraged and cordially invited to take part in the production of one or all of the student publications.

The Delta Student Handbook is published as a general source of information specifically designed for students by students.

Intercollegiate Athletics. Delta College is a member of the Michigan Junior College Athletic Conference and the National J. C. Athletic Association. We offer seven intercollegiate sports for men including Soccer, Cross Country, Basketball, Wrestling, Tennis, Track and Golf. Delta is one of the few junior colleges in Michigan offering an Intercollegiate program for women. The women's program includes Field Hockey, Volleyball and Basketball.

Intramural Program. The Division of Health, Physical Education and Recreation offers a diversified program of Intramural and Women's recreational Activities for the Delta student. Students interested in the program should contact the Division of the activities offered.

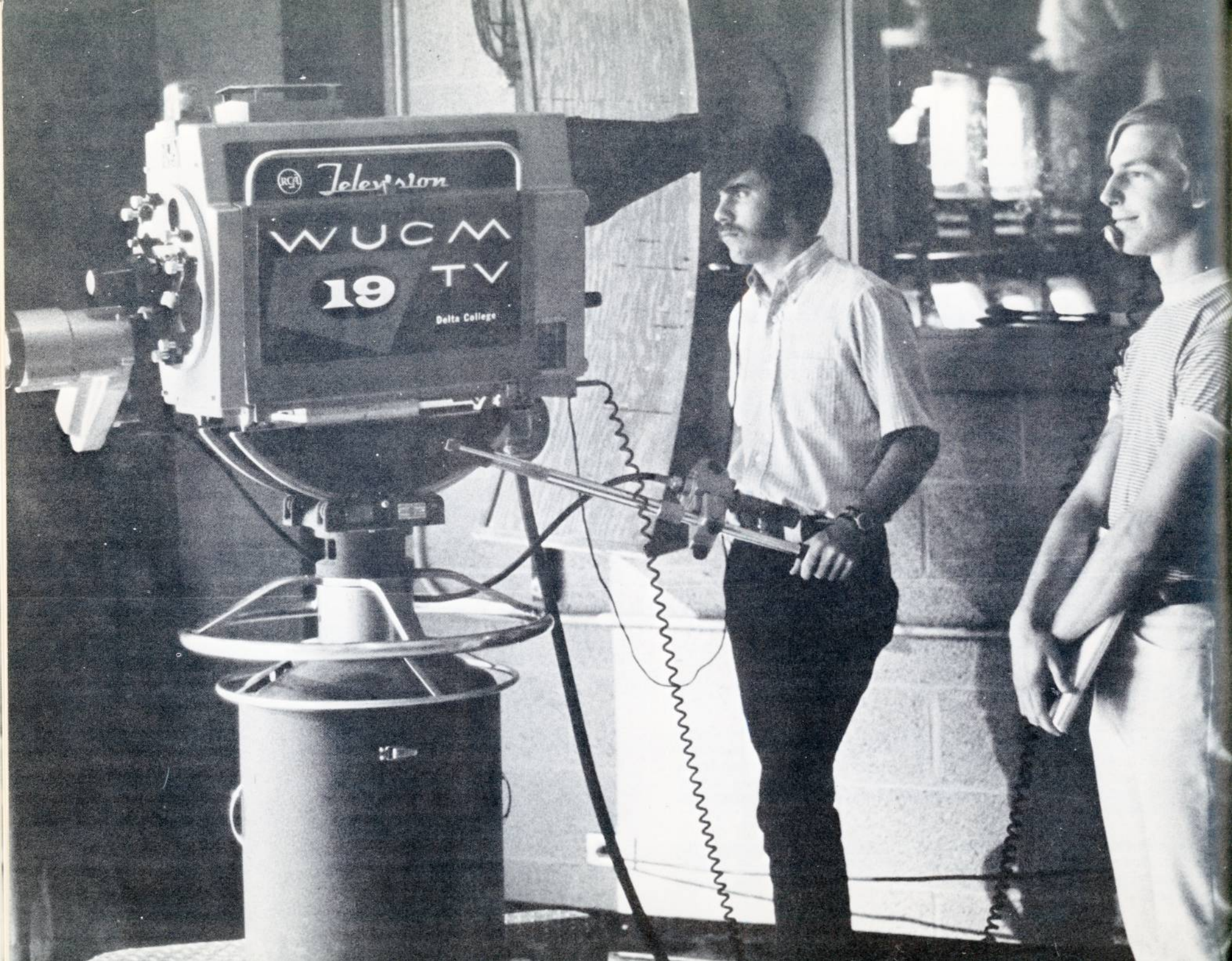
Sororities and Fraternities. As of April 1967, Delta College officially recognized four sororities and four fraternities. These groups are governed by the Inter-Sorority and Fraternity Council (ISFC) and are responsible to the Faculty-Greek Advisory Board (FGAB). All Greek societies are local and have no national affiliation. Each organization encourages high scholarship and active participation in school activities.

Social and Cultural Events. Delta College has several outstanding musical groups, including the choir, the Delta College Singers (selected from the choir), and the Wind Ensemble group. Too, there is the theatrical group known as the Delta Players. They have presented such plays as "Harvey," "the Imaginary Invalid," "The Glass Menagerie," and "Raisin in the Sun."

In addition to this, the Convocation Board of the College Council has coordinated two film programs: International Film Series (foreign films in original dialogue with English subtitles) and the World Around Us Series (organized on the theme of people, places and things). The Activities Board, too, has had much success with its film series: "Classics from the Flicker Days" (old time movies) and "Weekend Movies" (recent releases), plus there are regular speakers and lecturers brought to the campus as well as the Health Film Series.

Also, Delta College students attend many of the Tri-city community cultural programs. The student Convocation Board has made it possible for Delta Students to attend such programs free of charge. The Board is able to do this, by purchasing blocks of season tickets, at a discount rate, each year. Listed below are the names of the organizations supported by the Convocations Board:

Bay City Community Concerts
Bay City Players
Midland Little Theater
Midland Music Foundation
Midland Symphony Orchestra
Saginaw Community Concerts
Saginaw Pit and Balcony
Saginaw Symphony Orchestra


RCA Television
WUCM
19 TV
Delta College

TRANSFER PROGRAMS

Group Requirements of Selected State Colleges and Universities. A variety of curricula, or programs of study, are available to Delta College students. Generally, these curricula are two years (four semesters) in length and culminate in the awarding of the associate degree; however, a few are less than two years and some of the health careers and technician programs are five and six semesters in length.

Transfer curricula provide the first two years of study needed to fulfill requirements of senior colleges and universities awarding the baccalaureate degree. Delta College maintains up to date information and continuous liaison with the senior colleges in Michigan regarding the requirements for transfer. Curricula sheets for the state colleges and universities are maintained in the Student Services Office and may be obtained at any time. A file of both state and out-of-state catalogs is also available. Students are advised to use both the curricula sheets and the catalogs in determining their course schedules. Counselors also are available to advise students on transfer problems.

Programs designed for transfer to Baccalaureate Degree Granting Institutions.

ARCHITECTURE and DESIGN
- 4 Architecture and Design
- 5 Landscape Architecture

BUSINESS
- 15 Business Administration
- 22 Hotel Management

EDUCATION
- 44 Art
- 45 Business
- 46 Elementary
- 50 Industrial Arts
- 52 Music
- 51 Physical Education
- 48 Secondary
- 49 Special

ENGINEERING
- 55 General Engineering

LIBERAL ARTS
- 90 Academic (General)
- 9 Art
- 64 Library Science
- 61 Pre-Journalism
- 62 Pre-Law
- 88 Social Work

MEDICAL & HEALTH FIELDS
- 71 Dental Hygiene
- 74 Medical Technology
- 76 Mortuary Science
- 77 Pre-Nursing
- 70 Pre-Dentistry
- 80 Occupational Therapy
- 73 Pre-Medicine
- 81-Pre-Optometry
- 82-Pre-Pharmacy
- 86 Pre-Veterinary
- 83 Physical Therapy
- 84 Public Health

NATURAL RESOURCES
- 1 Agriculture
- 40 Conservation
- 58 Forestry
- 68 Chemistry

Basic Requirements. The following is a listing of the basic requirements for most of the public senior colleges in Michigan. There may be variations from these requirements for specific curricula, and each student will be expected to obtain additional information as a guide-line in planning his program.

CENTRAL MICHIGAN UNIVERSITY

The following are group classifications used at Central Michigan University and courses at Delta College which may be used to fill these requirements:

Group I—English, Languages, and Speech — 12 Sem Hrs
English 111, Speech 112, and additional courses from Language, Literature or Speech.

Group II—Science — 12-18 Sem Hrs
Divided among at least two departments. Biology, Geology, Mathematics, Physical Science, Physics, Chemistry, and in some curricula, Psychology.

Group III—Social Science — 12 Sem Hrs
Divided among at least two departments. Economics, Geography, History, Philosophy, Sociology. Political Science is required.

Group IV—Physical Education — 4 Sem Hrs

FERRIS STATE COLLEGE

Group Requirements for a baccalaureate degree include the following:

Freshman English	6 Sem Hrs
Science	8 Sem Hrs
Social Science	6-12 Sem Hrs
Humanities	6-8 Sem Hrs

MICHIGAN TECHNOLOGICAL UNIVERSITY

Core Requirements for Engineering:

Mathematics	16 Sem Hrs
Chemistry	8 Sem Hrs
Physics	8 Sem Hrs
Engineering Science	3 Sem Hrs
General Studies	10 Sem Hrs
Humanities and Social Studies	15-30 Sem Hrs

Requirements vary among the engineering majors.
See catalog for core requirements for other curricula.

NORTHERN MICHIGAN UNIVERSITY

Course Requirements

Group I—Humanities — 16 Sem Hrs
English, Speech, Art Appreciation, Music Appreciation, Philosophy, Religion, History of Western Civilization.

Group II—Mathematics and Natural Science — 8 Sem Hrs
At least one laboratory science course in Chemistry, Physics, or Biology, plus additional hours in any of these areas of Mathematics. Students with less than 8 hours may take Common Learning 121 or additional courses in the specific areas named.

Group III—Social Science — 8 Sem Hrs
American Government and additional courses in Sociology, Economics, Geography, or Political Science.

Group IV—Foreign Language or Electives — 8 Sem Hrs

SAGINAW VALLEY COLLEGE

The basic requirements for a degree program at Saginaw Valley College may be met as follows:

Group I—Communication Area — 9 Sem Hrs
English 111, 112
Speech 112

Group II—Humanities — 8 Sem Hrs
Literature, Philosophy, Art Appreciation, Music Appreciation, Foreign Language

Group III—Science Area — 8 Sem Hrs
Biology, Physical Science, Geology, Chemistry, Physics, (any two or a sequence of one science)

Group IV—Social Science — 8 Sem Hrs
History, Political Science, Sociology, Geography, Economics 221, 222

Group V—Physical Education — NONE
Electives—majors or minors (number depends upon curriculum).

EASTERN MICHIGAN UNIVERSITY

Group requirements for a degree and the equivalent courses at Delta are:

Group I—Language and Literature — 14 Sem Hrs
English 111, 112, Speech 112, Literature and Language.

Group II—Science — 12 Sem Hrs
Biological Sciences, Physical Science, Geography 111, Mathematics, Psychology 211.

Group III—Social Science — 12 Sem Hrs
History, Political Science, Philosophy, Economics, Sociology, Geography.

Group IV—Fine Arts—for some curricula
Art, Music.

Group V—Physical Education — 4 Sem Hrs

MICHIGAN STATE UNIVERSITY

All degree students must complete four foundation courses. The Michigan State University and the Delta College equivalencies are listed below:

Group I—American Thought and Language — 6 Sem Hrs
English 111, 112.

Group II—Natural Science — 8 Sem Hrs
Divided between the Biological Sciences and the Physical Sciences.

Group III—Social Science — 8 Sem Hrs
Divided among two or more subject matter departments.
Economics
Geography
Political Science
Psychology
Sociology

Group IV—Humanities — 8 Sem Hrs
Divided among two or more departments.
History
Literature
Music Appreciation, Art Appreciation
Philosophy

Group V—Physical Education — 2 Sem Hrs

Many of the curricula demand a year of college credit in a foreign language if an equivalent amount of high school language was not taken.

Note: Group requirements started at Delta should be completed prior to transfer.

UNIVERSITY OF MICHIGAN

Students planning to enroll in the College of Literature, Science and the Arts at the University of Michigan should complete as many as possible of the distribution courses listed below during their first two years.

Group I—English — 6 Sem Hrs
English 111, 112

Group II—Foreign Language — 0 to 16 Sem Hrs
Fourth semester proficiency in one language.

Group III—Social Sciences — 14 Sem Hrs
Work in at least two departments including a two-semester sequence in one department. Not more than 8 semester hours in one department.
Economics, Geography, History, Political Science, Psychology, Sociology.

Group IV—Natural Science — 12 Sem Hrs
Work in two departments including a two-semester sequence in a laboratory course in one group.
I. Biological, Geological, and other Sciences.
II. Chemistry and Physics.

Group V—Humanities — 12 Sem Hrs
A two-semester sequence in one group and one semester in another.
I. Literature
II. Fine Arts
III. Philosophy

A minimum of 40 hours of these requirements, including English and the language, must be completed during the Freshman and Sophomore years.

Note: The School of Education has a few variations in distribution requirements. The appropriate catalog should be consulted by education majors.

WAYNE STATE UNIVERSITY

The basic curriculum of the College of Liberal Arts and the Delta courses to fulfill these requirements are shown below. A student should check for specialized curricula as they vary from the general curriculum listed.

Group I—English and Literature — 12 Sem Hrs
English 111, 112, and Literature electives.

Group II—Foreign Language — 0 to 20 Sem Hrs
Number of credits dependent upon high school language units.

Group III—Natural Science — 16 Sem Hrs
The laboratory science chosen may be determined somewhat according to the requirements of the major field. Must include one year's sequence in one science.

Group IV—Social Science — 12 Sem Hrs

Group V—Electives — 18 Sem Hrs

WESTERN MICHIGAN UNIVERSITY

The basic requirements for a degree program at Western Michigan University may be met as follows:

Group I—Communication Area — 6 Sem Hrs
English 111, 112

Group II—Science Area — 8 Sem Hrs
Must be divided between two or more departments: Biological Science and a Physical Science.

Group III—Social Science Area — 4 Sem Hrs
Must be divided between two or more departments: History, Economics, Sociology, Political Science.

Group IV—Humanities Area — 8 Sem Hrs
Must be divided between two departments or more. West Civilization, Literature, Philosophy, Art Appreciation or Music Appreciation.

Group V—Physical Education — 4 Sem Hrs

Note: Group requirements started at Delta should be completed before transferring.

GENERAL REQUIREMENTS

General requirements for certain curricula are listed in the following paragraphs. These requirements vary for different senior colleges and departmental majors. Students should obtain curriculum sheets for the program in which they are enrolling. Each student should follow the program for the senior college to which he plans to transfer. An example of some of these curricula sheets are shown for these five:

Business Administration
Elementary Education
Secondary Education
Engineering
Liberal Arts

Curriculum sheets are available for the following transfer programs: Architecture and Design, Landscape Architecture, Hotel Management, Art, Business, Industrial Arts, Music, Physical Education, Special Education, General Engineering, General Academic, Library Science, Pre-Journalism, Pre-Law, Social Work, Dental Hygiene, Medical Technology, Mortuary Science, Pre-Nursing, Pre-Dentistry, Occupational Therapy, Pre-Medicine, Pre-Optometry, Pre-Pharmacy, Pre-Veterinary, Physical Therapy, Public Health, Agricultural, Conservation, Forestry and Chemistry.

BUSINESS ADMINISTRATION TRANSFER PROGRAMS

Business Administration students prepare for business, industrial, and community leadership. Professional goals in business may be directed toward specialized areas: accounting, retailing, finance, marketing, insurance, real estate, secretarial administration, and public administration. The two-year sequence of courses provides general background principles of business, and some of the tool subjects. A transfer student may follow various programs of specialization. The student is urged to secure the catalogue of the senior college of his choice and plan his courses carefully in conference with his advisor.

BUSINESS ADMINISTRATION

English 111, 112	6 Sem Hrs
Accounting 211, 212	8 Sem Hrs
Economics 221, 222	8 Sem Hrs
Science	4-8 Sem Hrs
Mathematics	3-8 Sem Hrs
Social Science	4-8 Sem Hrs
Humanities	0-9 Sem Hrs

ELEMENTARY EDUCATION

English 111, 112	6 Sem Hrs
Speech 112	3 Sem Hrs
English 251	3 Sem Hrs
Language	0-16 Sem Hrs
Social Science	8-15 Sem Hrs
Science	8-16 Sem Hrs
Humanities	0-12 Sem Hrs
Art Education	3-6 Sem Hrs
Music	3-6 Sem Hrs
Mathematics 110	3 Sem Hrs
Physical Education	2-4 Sem Hrs

Certain phases of Special Education for teaching the handicapped are obtained through this curriculum.

A special kind of opportunity exists on a cooperative basis between Delta College and Michigan State University through the Educational Intern Program in Elementary Education. All four years of training, with the exception of two summers on the MSU campus, can be completed at Delta or in the geographic area of the student's internship training. Additional information is available at the Student Services Office.

SECONDARY EDUCATION

English 111, 112	6 Sem Hrs
Speech 112	3 Sem Hrs
*Literature	3-12 Sem Hrs
Foreign Language	0-16 Sem Hrs
Science	8-12 Sem Hrs in two departments; At least one year of laboratory science is required.
Social Science	8-14 Sem Hrs
*Humanities	3-12 Sem Hrs
Physical Education	2-4 Sem Hrs

* Literature requirements usually included in Humanities group.

There are variations of this program for Business Education, Home Economics Education, Industrial Education, and some phases of teaching the handicapped.

ENGINEERING

English 111, 112	6 Sem Hrs
Chemistry	5-11 Sem Hrs
Physics 211, 212, 215	13 Sem Hrs
*Mathematics 161, 162, 261, 262	16 Sem Hrs
Economics 221, 222	8 Sem Hrs
Drafting 155, 156	6 Sem Hrs
Political Science	3 Sem Hrs
Humanities	3-8 Sem Hrs

* Placement in the beginning course of this sequence depends upon prior courses in mathematics and scores on placement tests.

LIBERAL ARTS—B.A. DEGREE

For students interested in preparing for Law, Social Work, Library Science, Linguistics, and similar fields.

English 111, 112	6 Sem Hrs
Speech 112	3 Sem Hrs
Language	8-16 Sem Hrs
*Literature	5-12 Sem Hrs
Social Science	12-16 Sem Hrs
Science	12-18 Sem Hrs
*Humanities	5-12 Sem Hrs
Physical Education	2-4 Sem Hrs

* Literature requirements usually included in Humanities group.

The minimum number of credits in some groups may be greater than listed above depending upon department major.

DATA PROCESSING

Delta College suggested courses for transfer to Ferris State College

First Semester	Sem Hrs
Data Proc 133—Introduction to Data Processing	3
Acct 211—Principles of Accounting	4
Math 122—College Algebra	3
Eng 111—Freshman Composition	3
Pol Sci 103—Introduction to American Government	3
PE—Elective—Activity	1
	17 Hrs

Second Semester	
Data Proc 239 (360 BAL)—Computer Programming	3
Acct 212—Principles of Accounting	4
Eng 112—Freshman Composition	3
Phys Sci 101—Physical Science	4
PE—Elective—Activity	1
	15 Hrs

Third Semester	Sem Hrs
Data Proc 235—Data Processing Accounting Applications	3
Data Proc 245 (COBOL)—COBOL Programming	3
Gen Bus 251—Business Law	3
Econ 221—Principles of Economics	4
Hist 221 or 222—History of the United States to 1865 or 1865 to Present	3
	16 Hrs

Fourth Semester	Sem Hrs
Data Proc 243 or 246—Report Program Generator Programming or PL/I Programming	2, 3
Gen Bus 252—Business Law	3
Econ 222—Principles of Economics	4
Biol 111 or Phys Sci 102—Principles of Biology or Physical Science	4
Soc 211—Principles of Sociology	3
	16, 17 Hrs

AGRICULTURAL CURRICULUM

Associate Degree Program. Suggested curriculum for students transferring to Michigan State University and other institutions:

First Semester	Sem Hrs
Eng 111—Freshman Composition	3
Biol 111—Principles of Biology	4
Chem 101 or Chem 111—General Chemistry or General and Inorganic Chemistry	5, 4
Math 131—Introductory College Mathematics	5
PE—Elective—Activity	1
	18, 17 Hrs

Second Semester	Sem Hrs
Eng 112—Freshman Composition	3
Soil Sci (MSU 210)—Fundamentals of Soil Science	4
Chem 102 or Chem 112—General Chemistry or General and Inorganic Chemistry	3, 4
Pol Sci 111—American Government and Politics	4
PE—Elective—Activity	1
	15, 16 Hrs

Third Semester	Sem Hrs
Speech 112—Principles of Public Speaking	3
Econ 221—Principles of Economics	4
Sci Elective (3)—	4
Crop Sci (MSU 251)—Plant and Animal Genetics	4
	15 Hrs

Fourth Semester	Sem Hrs
Agri Econ (MSU 240)	4
Psych 211—General Psychology	4
Sci Elective (3)—	4
Gen Bus 151 (4)—Business Communications	3
	15 Hrs

(1) Choice depends on the agricultural major selected.

(2) Mathematics requirements depend on the agricultural major selected: generally, College Algebra or its equivalent is sufficient; Agricultural Engineering requires Mathematics 161, etc. Students may have to complete mathematics requirements after transferring.

(3) Supporting science depends on the agricultural major. Some choices are physics 111, 112, Mathematics 161, 162, Biology 111, 112.

(4) General Business 151 recommended; English 113 may replace General Business 151. One of the following may replace General Business 151:

An Sci (MSU 325)—Applied Animal Nutrition	4
Biol 151—Botany	4
Chem 211—Organic Chemistry	5
Math 161—Analytic Geometry and Calculus I	4

If a student elects one of the four courses above instead of General Business 151 or English 113, he must then complete 3 additional hours of communications at Michigan State University.

Students must complete all of the humanities basic at Michigan State University.

CAREER PROGRAMS

Delta College offers the following Associate Degree curricula requiring four or more semesters to complete.

BUSINESS EDUCATION*
- Accounting
- Air Line Hostess
- Airline Hostess-Clerical
- Building Materials Management
- Business Management
- Data Processing
- Finance and Banking
- General Marketing
- Medical Assistant
- Real Estate
- Retailing Mid-Management**
- Transportation and Traffic Management
- Secretarial (General)
- Chemical Secretarial
- Legal Secretarial

HEALTH EDUCATION
- Dental Assisting
- Nursing (RN program)
- Radiologic Technology

PUBLIC SERVICE
- Broadcasting
- Engineering Assistant
- Law Enforcement
- Social Health Services Assistant
- Urban Professional Assistant

TRADE-TECHNICAL EDUCATION
- Architectural Technology
- Automotive Service Technology
- Chemical Technology
- Electronic Technology
- Instrumentation Technology
- Mechanical Technology
- Residential Construction Technology

* All curricula listed (except Air Line Hostess) under Business Education have co-operative opportunities with Business and Industry in the Saginaw Valley.

** Prior to entering this curriculum students must have the approval of the Distributive Education Coordinator.

The following certificate level curricula require from two to four semesters to complete.

- Accounting
- Automotive Service (Mechanics)
- Automotive Service Specialist
- Drafting
- Machine Calculation
- Secretarial

BUSINESS CAREER PROGRAMS

The Business Education Division is vocational in its aims and objectives. It provides the following educational opportunities:

I. For an Associate Degree leading to a Baccalaureate Degree in

(a) Business Administration or Applied Science, for employment in such fields as accounting, advertising, banking, finance, hotel management, insurance law, marketing, personnel, real estate, secretarial, and transportation.

(b) Business Education in preparation for teaching office, general business, or distributive education courses; and with additional degrees, for teaching, coordinating, or administrative duties in colleges and universities.

II. For Business Careers, with an Associate Degree in Business Studies.

Business subjects and related courses in communications, mathematics, science, economics, history, government, and physical education, prepare the student for employment in business and commercial occupations. There are excellent positions open to community college graduates. Courses of study are planned in areas where job opportunities clearly exist. These offerings are modified from time to time as the needs of the communities change. Emphasis is placed on assisting the student in choosing a curriculum to meet vocational requirements, in accordance with his interest and aptitudes. Some suggestions are printed here for general information; however, each student plans, with his adviser, a sequence of studies to fit his individual needs.

Cooperative Occupational Education. This is a method by which a student may apply learned skills, principles, and concepts in the role of an actual paid on-the-job learning worker. The selected training station supervisor works with the student to help develop occupational competence in an occupational area that is directly related to the student's career goal and the curriculum that he or she has chosen. This learning experience of at least 15 hours per week in a real-life job and one hour per week in a co-op class is supervised by a state certified coordinator. Three credits per semester are earned by the co-op student for successfully meeting all requirements.

Students who are interested in cooperative education may make formal application in the cooperative education office.

In addition to these two regular groups, the Business Education Division welcomes those students who do not wish to complete degree requirements, who desire to take a single course, or a series of courses, in the Day or Evening College, to fulfill their particular requirements. Many students find themselves in circumstances that do not permit a full two-year program.

BUSINESS ONE-YEAR CURRICULA

These courses, designed especially for the student who plans to attend college for only one year, give the technical knowledge necessary for entry into the business field. Students completing this program have been placed in attractive positions. The following courses are recommended but may be changed to meet individual needs and interests.

ACCOUNTING CURRICULUM

Suggested Courses

Certificate Program

First Semester	Sem Hrs
Gen Bus 151—Business Communications	3
Acc 111 or Acc 112—Introductory	3
Bus Mach 171 or 172—Beg. or Inter. Typewriting	2
Bus Mach 175—Machine Calculation	2
Econ 111—Principles of Economics	3
Gen Bus 110—Business Computation	3
	16 Hrs

Second Semester	Sem Hrs
Gen Bus 152—Business Communications	3
Acc 112 or Acc Elective—Introductory	3
Gen Bus 255—Office Management	3
Econ 112—Principles of Economics	3
Data Proc 133—Introduction	3
	15 Hrs

MACHINE CALCULATION CURRICULUM

Certificate Program

First Semester	Sem Hrs
Gen Bus 151—Business Communications	3
Acc 111 or 112—Introductory	3
Bus Mach 171 or 172—Beg. or Inter. Typewriting	2
Bus Mach 175 or 176—Machine Calculation	4
Gen Bus 110—Business Computation	3
	15 Hrs

Second Semester	Sem Hrs
Gen Bus 152—Business Communications	3
Bus Mach 172 or 273—Inter. or Advanced Typewriting	2
Bus Mach 274—Voice Transcription	2
Gen Bus 157—Filing and Record Management	3
Sec Sci 261—Secretarial Practices	3
Speech 112—Principles of Public Speaking	3
	16 Hrs

† Business Machines 171 will be waived if the department proficiency exam is passed.

SECRETARIAL CURRICULUM

Certificate Program

First Semester	Sem Hrs
Gen Bus 151—Business Communications	3
Acc 111—Introductory	3
Sec Sci 162—Intermediate Shorthand	4
Bus Mach 172—Intermediate Typewriting	2
Speech 112—Principles of Public Speaking	3
	15 Hrs

Second Semester	Sem Hrs
Gen Bus 152—Business Communications	3
Sec Sci 263—Dictation and Transcription	4
Bus Mach 273—Advanced Typewriting	2
Gen Bus 157—Filing and Records Management	3
Sec Sci 261—Secretarial Practices	3
Bus Mach 175—Machine Calculation	2
	17 Hrs

ACCOUNTING CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Gen Bus 151—Business Communications	3
Acct 111—Introductory Accounting	3
Econ 111—Essentials of Economics	3
Bus Mach 171 or Elective†	2
Bus Mach 175—Machine Calculation	2
Gen Bus 153—Business Organization	3
	16 Hrs

Second Semester	Sem Hrs
Gen Bus 152—Business Communications	3
Acct 112—Introductory Accounting	3
Econ 112—Essentials of Economics	3
Gen Bus 110—Business Computation or Elective	3
Data Proc 133—Introduction to Data Processing	3
PE—Elective—Activity	1
	16 Hrs

Third Semester	Sem Hrs
Acct 213—Cost Accounting	3
Data Proc 235—Data Processing Applications	3
Gen Bus 251—Business Law	3
Pol Sci 103—Introduction to American Government	3
Speech 112—Principles of Public Speaking	3
	15 Hrs

Fourth Semester	Sem Hrs
Acct 215—Federal Tax Accounting	3
Acct 217 or 113—Auditing Theory and Procedure or Social Security and Payroll Accounting	3, 2
Gen Bus 255—Office Management	3
Gen Bus 252—Business Law	3
Math 108—Elementary Statistics or Elective	3
PE—Elective—Activity	1
	16, 15 Hrs

AIRLINE HOSTESS CURRICULUM

This may be a one- or two-year course, which must be followed by short, intensive training of a few weeks either at a school operated by an airline or by one specializing in airline operations.

The following program recommended by a national airline is characteristic of suggestions made by other airlines.

Qualifications:

Age: 20 to 28
Marital Status: Single
Height: 5′2″ to 5′7″
Weight: 130 pounds maximum in proportion to height
Attractive appearance and personality
Visual Acuity: 20/30 without corrective lenses
Suggested Preparatory Courses:
English, Psychology, Public Speaking, Sociology
Hygiene, Physiology
Languages
Music, Art
Geography, Political Science
Physical Education

The same airline states: If selected, the applicant will attend a training school, during which time she will be furnished room, board, and classroom equipment. Upon successful completion of the training program, she will be considered for employment and, if accepted, will be assigned a base station.

AIRLINE HOSTESS—CLERICAL CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Eng 111 or Gen Bus 151—Freshman Composition or Business Communications	3
Bus Mach 171 or 172—Beginning Typewriting or Intermediate Typewriting	2
Econ 111—Essentials of Economics	3
Humanities or Foreign Language	3, 4
Bus Mach 175—Machine Calculation	2
Gen Bus 157—Filing and Records Management	3
	16, 17 Hrs

Second Semester	Sem Hrs
Eng 112 or Gen Bus 152—Freshman Composition or Business Communications	3
Gen Bus 110—Business Computation	3
Econ 112—Essentials of Economics	3
Humanities or Foreign Language	3, 4
Speech 112—Principles of Public Speaking	3
PE—Elective—Activity	1
	16, 17 Hrs

Third Semester	Sem Hrs
HE 171—Personal Health	4
Geog 113—World Regional Geography	4
Psych 211—General Psychology	4
Soc 211—Principles of Sociology	3
PE—Elective—Activity	1
	16 Hrs

Fourth Semester	Sem Hrs
Acct 111—Introductory Accounting	3
Sec Sci 261 or Gen Bus 255—Secretarial Practices or Office Management	3
Data Proc 133—Introduction to Data Processing	3
Pol Sci 103—Introduction to American Government	3
Soc 212—Social Problems	3
	15 Hrs

GEOL 111 4 PSYC 231 3 SOC 5+ 8.
ENG 111 3 GB 252 3
PSYC 211 4 HUM 8
NAT SCI 4

BUILDING MATERIALS MANAGEMENT

Associate Degree Program

First Semester

	Sem Hrs
Acct 111—Introductory Accounting	3
Bus Mach 175—Machine Calculation	2
Gen Bus 153—Business Organization	3
Econ 111—Essentials of Economics	3
Gen Bus 110—Business Computation	3
Eng 111—Freshman Composition	3
	17 Hrs

Second Semester

	Sem Hrs
Acct 112—Introductory Accounting	3
Dist Ed 145—Sales	3
Econ 112—Essentials of Economics	3
Eng 112—Freshman Composition	3
Speech 112—Principles of Public Speaking	3
PE—Elective—Activity	1
	16 Hrs

Third Semester

	Sem Hrs
Dist Ed 243—Marketing	3
Dist Ed 247—Retailing	3
Gen Bus 151—Business Communications	3
Arch Tech 101—Materials and Methods of Architectural Construction	2
Arch Tech 111—Mechanical and Electrical Equipment for Buildings	4
PE—Elective—Activity	1
	16 Hrs

Fourth Semester

	Sem Hrs
Acct 213—Cost Accounting	3
Arch Tech 105—Architectural Drafting I	7
Data Proc 133—Introduction to Data Processing	3
Gen Bus 255—Office Management	3
	16 Hrs

Fifth Semester

	Sem Hrs
Arch Tech 106—Architectural Drafting II	7
Dist Ed 245—Principles of Management	3
Pol Sci 103—Introduction to American Government	3
Arch Tech 203—Estimating	2
	15 Hrs

BUSINESS MANAGEMENT

Associate Degree Program

First Semester

	Sem Hrs
Acct 111—Introductory Accounting	3
Bus Mach 171†—Beginning Typewriting	2
Gen Bus 151—Business Communications	3
Gen Bus 153—Business Organization	3
Gen Bus 110‡—Business Computation	3
Speech 112—Principles of Public Speaking	3
	17 Hrs

Second Semester

	Sem Hrs
Acct 112—Introductory Accounting	3
Data Proc 133—Introduction to Data Processing	3
Dist Ed 243—Marketing	3
Gen Bus 152—Business Communications	3
Psych 101—Applied Psychology	3
PE—Elective—Activity	1
	16 Hrs

Third Semester

	Sem Hrs
Dist Ed 245—Principles of Management	3
Dist Ed 145—Sales	3
Econ 111—Essentials of Economics	3
Elective*	3
Gen Bus 251—Business Law	3
PE—Elective—Activity	1
	16 Hrs

Fourth Semester

	Sem Hrs
Dist Ed 143—Advertising	3
Econ 112—Essentials of Economics	3
Gen Bus 255—Office Management	3
Pol Sci 103—Introduction to American Government	3
Elective*	2, 3
	14, 15 Hrs

* Elective—Acct 213—Cost Accounting; Data Proc 235—Data Processing Applications; Dist Ed 247—Problems of Retail Merchandising; Gen Bus 252—Business Law; Gen Bus 253—Credit and Collections; Bus Mach 175—Machine Calculation; Math 108—Elementary Statistics.

† Business Machines 171 will be waived if the department proficiency exam is passed.

‡ If the student has an adequate math background he should elect Mathematics 108 in place of Gen Bus 110.

DATA PROCESSING CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Data Proc 133—Introduction to Data Processing	3
Acct 211—Principles of Accounting	4
Math 119, 122, or 131*—Intermediate Algebra, College Algebra, or Introductory College Mathematics	3
Eng 111—Freshman Composition	3
Data Proc 179—Key Punching and Verifying	2
PE—Elective—Activity	1
	16 Hrs

Second Semester	Sem Hrs
Data Proc 134—Data Processing Machine Operations	3
Acct 212—Principles of Accounting	4
Math 108—Elementary Statistics	3
Eng 112—Freshman Composition	3
Data Proc 243—Report Program Generator	2
PE—Elective—Activity	1
	16 Hrs

Third Semester	Sem Hrs
Data Proc 235—Data Processing Accounting Applications	3
Data Proc 245—COBOL Programming	3
Acct 213—Cost Accounting	3
Econ 221—Principles of Economics	4
Elective—Science or Humanities	3, 4
	16, 17 Hrs

Fourth Semester	Sem Hrs
Data Proc 246—PL/I	3
Pol Sci 103—Introduction to American Government	3
Dist Ed 243—Marketing	3
Econ 222—Principles of Economics	4
Elective—Science or Humanities	3, 4
	16, 17 Hrs

* Placement in mathematics courses depends upon previous mathematics background and the mathematics placement test scores.

Those who do not wish to transfer may substitute:

In the First Semester, Accounting 111, General Business 110, and Business Communications 151.

In the Second Semester they may substitute Accounting 112, Business Communications 152, and Business Organization 153 for Mathematics 108.

In the Third and Fourth Semesters Economics 111 and 112 may be substituted. Two or three electives in business may be substituted for electives in science or humanities.

FINANCE AND BANKING CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Acct 111—Introductory Accounting	3
Coop Ed 121—Cooperative Education	3
Econ 111—Essentials of Economics	3
Eng 111—Freshman Composition	3
Gen Bus 110—Business Computation	3
PE—Elective—Activity	1
	16 Hrs

Second Semester	Sem Hrs
Acct 112—Introductory Accounting	3
Coop Ed 122—Cooperative Education	3
Gen Bus 253—Credit and Collections	3
Gen Bus 153—Business Organization	3
Speech 112—Principles of Public Speaking	3
PE—Elective—Activity	1
	16 Hrs

Third Semester	Sem Hrs
Acct 213—Cost Accounting	3
Coop Ed 221—Cooperative Education	3
Data Proc 133—Introduction to Data Processing	3
Gen Bus 251—Business Law	3
Econ 280—Money and Banking	3
	15 Hrs

Fourth Semester	Sem Hrs
Acct 217—Auditing Theory and Procedure	3
Coop Ed 222—Cooperative Education	3
Data Proc 235—Data Processing Accounting Applications	3
Gen Bus 151—Business Communications	3
Gen Bus 252—Business Law	3
	15 Hrs

Fifth Semester	Sem Hrs
Gen Bus 152—Business Communications	3
Phil 211—Introduction to Philosophy	3
Pol Sci 103—Introduction to American Government	3
Gen Bus 257—Corporate Finance	3
	12 Hrs

GENERAL MARKETING CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Acct 111—Introductory Accounting	3
Gen Bus 153—Business Organization	3
Gen Bus 151—Business Communications	3
Bus Mach 171*—Beginning Typewriting	2
Pol Sci 103—Introduction to American Government	3
Gen Bus 110—Business Computation	3
	17 Hrs

Second Semester	Sem Hrs
Acct 112—Introductory Accounting	3
Gen Bus 152—Business Communications	3
Speech 112—Principles of Public Speaking	3
Psych 101—Applied Psychology	3
Dist Ed 243—Marketing	3
PE—Elective—Activity	1
	16 Hrs

Third Semester	Sem Hrs
Gen Bus 251—Business Law	3
Elective[xy]	3
Dist Ed 145—Sales	3
Econ 111—Essentials of Economics	3
PE—Elective—Activity	1
Dist Ed 245—Principles of Management	3
	16 Hrs

Fourth Semester	Sem Hrs
Dist Ed 143—Advertising	3
Dist Ed 247—Problems of Retail Merchandising	3
Econ 112—Essentials of Economics	3
Data Proc 133—Introduction to Data Processing	3
Elective[xy]	3
	15 Hrs

Retailing Electives (x)

Gen Bus 253—Credit and Collections
Gen Bus 255—Office Management
Bus Mach 175—Machine Calculation
Soc 211—Principles of Sociology

Advertising Electives (y)

Eng 115 or 116—Basic Journalism Skills or News Reporting
Art 115 or 116—Basic Design, Two or Three Dimensional
Soc 211—Principles of Sociology

* Business Machines 171 will be waived if the department proficiency exam is passed.

[x] Retailing

[y] Advertising

MEDICAL ASSISTANTS CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Gen Bus 151—Business Communications	3
Sec Sci 161—Beginning Shorthand	4
Sec Sci 165—Orientation to Medical Office Work	1
HE 171—Personal Health	3
Speech 112—Principles of Public Speaking	3
Bus Mach 175—Machine Calculation	2
PE—Elective—Activity	1
	17 Hrs

Second Semester	Sem Hrs
Gen Bus 152—Business Communications	3
Bus Mach 172—Intermediate Typewriting	2
Sec Sci 162—Intermediate Shorthand	4
Gen Bus 110—Business Computation	3
Sec Sci 166—Orientation to Community Health Services	1
Biol 111—Principles of Biology	4
	17 Hrs

Third Semester	Sem Hrs
Sec Sci 264 (Medical) or Bus Mach 274—Speed Building and Specialized Shorthand or Voice Transcription and Copying Machine Procedures	3, 2
Coop Ed 121—Cooperative Office Education	3
Sec Sci 265—Nursing Arts	3
Psych 211—General Psychology	3
Gen Bus 157—Filing and Records Management	3
	15, 14 Hrs

Fourth Semester	Sem Hrs
Acct 111—Introductory Accounting	3
Sec Sci 261—Secretarial Practices	3
Coop Ed 122—Cooperative Office Education	3
Sec Sci 266—Orientation to the Medical Laboratory	3
Pol Sci 103—Introduction to American Government	3
PE—Elective—Activity	1
	16 Hrs

REAL ESTATE CURRICULUM*

Associate Degree Program

First Semester	Sem Hrs
Real Estate Principles I 181	3
Math 105	3
Accounting 111	3
General Business 151	3
# Bus Mach 171	2
Phys Ed	1
	15 Hrs

Second Semester	Sem Hrs
Real Estate Procedure 183	3
Real Estate Principles II 182	3
Data Processing 133	3
Accounting 112	3
General Business 152	3
Phys Ed	1
	16 Hrs

Third Semester	Sem Hrs
Real Estate & Govt 281	3
Accounting 215	3
Distributive Education 145	3
General Business 153	3
General Business 251	3
	15 Hrs

Fourth Semester	Sem Hrs
Real Estate Finance 282	3
Real Estate Appraisal 283	3
Political Science 103	3
Elective	3
Architectural Tech 101	2
Bus. Mach. 175	2
	16 Hrs

* Students who complete this program will be exposed to the material required for the salesman's license examination. They will also have completed the subject matter required by the National Assn. of Real Estate Boards for the new G.R.I. rating—Graduate Realtors Institute.

Business Machines 171 will be waived if the department proficiency exam is passed.

RETAILING AND MID-MANAGEMENT CURRICULUM

Associate Degree Program

Fall Semester	Sem Hrs
Gen Bus 151—Business Communications	3
Acct 111—Introductory Accounting	3
Bus Mach 171 or Elective†	2
Gen Bus 153—Business Organization	3
Coop Ed 125—Cooperative Distributive Education	3
PE—Elective—Activity	1
	15 Hrs

Winter Semester	Sem Hrs
Gen Bus 152—Business Communications	3
Acct 112—Introductory Accounting	3
Dist Ed 145—Sales	3
Econ 111—Essentials of Economics	3
Coop Ed 126—Cooperative Distributive Education	3
PE—Elective—Activity	1
	16 Hrs

Spring 7½ Week Semester	Sem Hrs
Dist Ed 247—Principles of Retailing	3
Gen Bus 157—Filing and Records Management	3
Coop Ed 225—Cooperative Distributive Education (15 weeks)	3
	9 Hrs

Summer 7½ Week Semester	Sem Hrs
Dist Ed 143—Advertising	3
Bus Mach 175—Machine Calculations	2
	5 Hrs

Fall Semester	Sem Hrs
Speech 102 or 112—Business and Professional Speech or Principles of Public Speaking	2, 3
Gen Bus 253—Credit and Collection	3
Dist Ed 243—Principles of Marketing	3
Coop Ed 266—Cooperative Distributive Education	3
Gen Bus 255—Office Management	3
	14, 15 Hrs

Winter Semester	Sem Hrs
Gen Bus 110—Business Computation	3
Data Proc 133—Introduction to Data Processing	3
Dist Ed 245—Principles of Management	3
Pol Sci 103—Introduction to American Government	3
Psych 101—Applied Psychology	3
	15 Hrs

† Business Machines 171 will be waived if the department proficiency exam is passed.

CHEMICAL SECRETARIAL CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Gen Bus 151—Business Communications	3
Sec Sci 161—Beginning Shorthand	4
Econ 111—Essentials of Economics	3
Math 119—Intermediate Algebra	3
Speech 112—Principles of Public Speaking	3
PE—Elective—Activity	1
	17 Hrs

Second Semester	Sem Hrs
Gen Bus 152—Business Communications	3
Sec Sci 162—Intermediate Shorthand	4
Gen Bus 157—Filing and Records Management	3
Chem 101—General Chemistry	4
Bus Mach 172—Intermediate Typewriting	2
	16 Hrs

Third Semester	Sem Hrs
Bus Mach 273 or 274—Advanced Typewriting or Voice Transcription and Copying Machine Procedure	2
Sec Sci 263—Dictation and Transcription	4
Bus Mach 175—Machine Calculation	2
Chem 101 or 102—General Chemistry	4
Pol Sci 103—Introduction to American Government	3
PE—Elective—Activity	1
	16 Hrs

Fourth Semester	Sem Hrs
Sec Sci 264 (Chemical)—Speed Building and Specialized Shorthand	3
Sec Sci 261—Secretarial Practices	3
Data Proc 133—Introduction to Data Processing	3
Acct 111—Introductory Accounting	3
Psych 211—General Psychology	4
	16 Hrs

LEGAL SECRETARIAL CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Gen Bus 151—Business Communications	3
Acct 111—Introductory Accounting	3
Bus Mach 171—Beginning Typewriting	2
Sec Sci 161—Beginning Shorthand	4
Econ 111—Essentials of Economics	3
PE—Elective—Activity	1
	16 Hrs

Second Semester	Sem Hrs
Gen Bus 152—Business Communications	3
Bus Mach 172—Intermediate Typewriting	2
Sec Sci 162—Intermediate Shorthand	4
Data Proc 133—Introduction to Data Processing	3
Bus Mach 175—Machine Calculation	2
Gen Bus 157—Filing and Record Management	3
	17 Hrs

Third Semester	Sem Hrs
Gen Bus 110—Business Computation	3
Bus Mach 273 or 274—Advanced Typewriting or Voice Transcription and Copying Machine Procedures	2
Sec Sci 263—Dictation and Transcription	4
Gen Bus 251—Business Law	3
Speech 112—Principles of Public Speaking	3
PE—Elective—Activity	1
	16 Hrs

Fourth Semester	Sem Hrs
Sec Sci 261—Secretarial Practices	3
Sec Sci 264 (Legal)—Speed Building and Specialized Shorthand	3
Gen Bus 252—Business Law	3
Pol Sci 103—Introduction to American Government	3
Psych 211—General Psychology	4
	16 Hrs

SECRETARIAL CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Gen Bus 151—Business Communications	3
Acct 111—Introductory Accounting	3
Sec Sci 161—Beginning Shorthand	4
Bus Mach 171—Beginning Typewriting	2
Econ 111—Essentials of Economics	3
PE—Elective—Activity	1
	16 Hrs

Second Semester	Sem Hrs
Gen Bus 152—Business Communications	3
Data Proc 133—Introduction to Data Processing	3
Sec Sci 162—Intermediate Shorthand	4
Bus Mach 172—Intermediate Typewriting	2
Pol Sci 103—Introduction to American Government	3
PE—Elective—Activity	1
	16 Hrs

Third Semester	Sem Hrs
Sec Sci 263—Dictation and Transcription	4
Bus Mach 273—Advanced Typewriting	2
Gen Bus 157—Filing and Records Management	3
Bus Mach 175—Machine Calculation	2
Psych 211—General Psychology	4
	15 Hrs

Fourth Semester	Sem Hrs
Acct 113—Social Security and Payroll Accounting	2
Sec Sci 264—Speed Building and Specialized Shorthand	3
Sec Sci 261—Secretarial Practices	3
Bus Mach 274—Voice Transcription and Copying Maching Procedures	2
Gen Bus 110—Business Computation	3
Speech 112—Principles of Public Speaking	3
	16 Hrs

TRANSPORTATION AND TRAFFIC MANAGEMENT CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Gen Bus 151—Business Communications	3
Acct 111—Introductory Accounting	3
Gen Bus 157—Filing and Records Management	3
Dist Ed 141—Transportation and Traffic Management	3
Econ 111—Essentials of Economics	3
Bus Mach 175—Machine Calculation	2
	17 Hrs

Second Semester	Sem Hrs
Gen Bus 152—Business Communications	3
Acct 112—Introductory Accounting	3
Dist Ed 142—Transportation and Traffic Management	3
Econ 112—Essentials of Economics	3
Speech 112—Principles of Public Speaking	3
PE—Elective—Activity	1
	16 Hrs

Third Semester	Sem Hrs
Gen Bus 153—Business Organization	3
Dist Ed 241—Transportation and Traffic Management	3
Data Proc 133—Introduction to Data Processing	3
Dist Ed 243—Marketing	3
Gen Bus 110—Business Computation	3
PE—Elective—Activity	1
	16 Hrs

Fourth Semester	Sem Hrs
Dist Ed 242—Transportation and Traffic Management	3
Gen Bus 255—Office Management	3
Gen Bus 251—Business Law	3
Geog 113—World Regional Geography	4
Pol Sci 103—Introduction to American Government	3
	16 Hrs

DENTAL ASSISTANT CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
DA 101—Introduction to Dental Assisting	4
DA 102—Dental Anatomy and Physiology	2
Bas Sci 101—Integrated Basic Science	5
Gen Bus 157—Filing and Record Management	3
Bus Mach 171—Beginning Typewriting	2
PE—Elective—Activity	1
	17 Hrs

Second Semester	Sem Hrs
DA 103—Dental Materials and Lab Procedures	4
DA 104—Dental Instruments and Equipment	2
Gen Bus 151—Business Communications	3
DA 105—Pathology and Pharmacology	3
Psych 101—Applied Psychology	3
PE—Elective—Activity	1
	16 Hrs

Third Semester	Sem Hrs
Soc 121—Preparation for Marriage and Family Living	3
DA 201—Dental Roentgenology	3
DA 202—Operative Procedures	4
DA 203—Dental Records and Practice Administration	2
Gen Bus 152—Business Communications	3
	15 Hrs

Fourth Semester	Sem Hrs
Speech 112—Principles of Public Speaking	3
DA 210—Internship	7
Pol Sci 103—Introduction to American Government	3
Elective	3
	16 Hrs

NURSING PROGRAM *

The nursing program prepares selected young men and women to function effectively as members of the health team. The student will develop the ability to be self-directing, to identify problems, and to work toward achieving satisfactory solutions. He will develop the basic knowledge and skills necessary for the nurse's role in the care of the patient.

The nursing program is five semesters in length. It includes 34 semester hours in general education and 32 semester hours in nursing education. Clinical laboratory experiences are offered the student under the supervision of the college nursing faculty. Various health agencies of the Saginaw Valley are utilized in offering these experiences to the student.

Upon successful completion of the program of study the student will be awarded the Associate in Applied Science Degree by Delta College.

The nursing program is approved by the Michigan Board of Nursing. The student, after graduation, is eligible to sit for the State Board Examinations, leading to Michigan Licensure and the privilege of using the title of Registered Nurse (RN). The student will follow the curriculum outlined.

NURSING CURRICULUM

Associate Degree Program

First Semester	**Sem Hrs**
Eng 111—Freshman Composition	3
Bas Sci 101—Integrated Basic Science	5
Nurs 111—Fundamentals of Nursing	8
	16 Hrs

Second Semester	**Sem Hrs**
Eng 112—Freshman Composition	3
Bas Sci 102—Integrated Basic Science	5
Nurs 211—Nursing in Physical and Mental Illness	8
	16 Hrs

Third Semester	**Sem Hrs**
Psych 211—General Psychology	4
Soc 211—Principles of Sociology	3
PE—Elective—Activity	1
	8 Hrs

Fourth Semester	**Sem Hrs**
Psych 231—Personality	3
Nurs 212—Nursing in Physical and Mental Illness	8
Nurs 213—Trends in Nursing	2
PE—Elective—Activity	1
	14 Hrs

Fifth Semester	**Sem Hrs**
Elective—Speech or Literature	3
Pol Sci 103—Introduction to American Government	3
Nurs 112—Maternal and Child Nursing	8
	14 Hrs

RADIOLOGIC TECHNOLOGY CURRICULUM

Associate Degree Program

First 15-week Semester	**Sem Hrs**
Bas Sci 101—Integrated Basic Science	5
Rad Tech 111—Introduction to Radiologic Technology	3
PE 101—Physical Fitness	1
Elective	3, 4
	12, 13 Hrs

Second 15-week Semester	**Sem Hrs**
Eng 111—Freshman Composition	3
Rad Tech 101—Radiographic Anatomy	3
Rad Tech 112—Radiologic Technology I	4
PE—Elective—Activity	1
Health Sci 111—Medical Terminology	2
	13 Hrs

Third 15-week Semester	**Sem Hrs**
Eng 112—Freshman Composition	3
Rad Tech 102—Radiographic Physics	3
Rad Tech 113—Radiologic Technology II	8
	14 Hrs

Fourth 15-week Semester	**Sem Hrs**
Psych 101—Applied Psychology	3
Bus Mach 171—Beginning Typewriting	2
Rad Tech 211—Advanced Radiologic Technology I	11
	16 Hrs

Fifth 15-week Semester	**Sem Hrs**
Soc 211—Principles of Sociology	3
Pol Sci 103—Introduction to American Government	3
Rad Tech 212—Advanced Radiologic Technology II	11
	17 Hrs

Sixth 15-week Semester	**Sem Hrs**
Rad Tech 213—Advanced Radiologic Technology III	15

Seventh and Eighth 15-week Semesters	**Sem Hrs**
* Rad Tech 311—Radiologic Internship	12
* Rad Tech 312—Radiologic Internship	12

* Follow in consecutive order with no semester break.

BROADCASTING CURRICULUM

Associate Degree Program

The Delta College Broadcasting Curriculum combines special radio-television courses with general education classes. Students work with professional broadcasters who serve as teaching faculty. Experience in the College's Television Department may be coupled with on-the-job training at local commercial stations.

Upon successful completion of the four-semester Broadcasting Curriculum, students are eligible for an Associate Degree in Arts or an Associate Degree in Applied Science depending on selection of electives. In fundamentals of broadcasting, for example, freshmen composition, physical education and political science augment a block of radio-television classes including speaking and announcing, studio operations, broadcast news, oral interpretation, broadcast sales, and television production and direction.

First Semester	**Sem Hrs**
Eng 111—Freshman Composition	3
RTV 113—Radio-Television Workshop	1
RTV 151—Fundamentals of Broadcasting	3
RTV 152—Radio-Television Speaking	3
Pol Sci 111—American Government & Politics	4
PE—Electivity—Activity	1
	15 Hrs

Second Semester	**Sem Hrs**
Eng 112—Freshman Composition	3
RTV 114—Radio-Television Workshop	1
RTV 153—Radio-Television Announcing	3
RTV 154—Radio-Television Operations	3
PE—Electivity—Activity	1
Elective	4
(FCC third class license examination completed)	15 Hrs

Third Semester	**Sem Hrs**
Gen Bus 153—Business Organization (Or Econ 221)	3
RTV 115—Radio-Television Workshop	1
RTV 155—Television Studio Operations	3
RTV 222—Broadcast News	3
Speech 213—Oral Interpretation of Literature	3
Elective	3
	16 Hrs

Fourth Semester	**Sem Hrs**
RTV 116—Radio-Television Workshop	1
RTV 227—Broadcast Sales	3
RTV 251—Television Production	3
Electives	10
	17 Hrs

The Television Department will attempt to provide work-related experiences in broadcasting stations for students who are qualified and desire such experience.

Those students who intend to transfer and pursue a baccalaureate degree should consult with a counselor when choosing electives.

LAW ENFORCEMENT CURRICULUM

Associate Degree Program

Delta College offers a Law Enforcement program that is designed to give specialized knowledge of law enforcement combined with a broad general educational background. The program offers theoretical, practical and technical instruction designed to meet ever-increasing demands and continuous upgrading by law enforcement agencies, including skills and attitudes required for employment or advancement.

Students graduating from Delta College's two-year Law Enforcement curriculum receive an Associate Degree in Applied Science and are eligible for immediate employment or transfer to leading state university Law Enforcement Programs.

First Semester	**Sem Hrs**
Pol Sci 103—Introduction to American Government	3
Eng 111—Freshman Composition	3
LE 110—Introduction to Law Enforcement	3
LE 111—Police Organization and Administration	3
Sp 112—Principles of Public Speaking	3
PE 101—Physical Fitness	1
	16 Hrs

Second Semester	**Sem Hrs**
Eng 112—Freshman Composition	3
Biol 111—Principles of Biology	4
LE 112—Police Operations	3
Chem 101 or Geol 111—General Chemistry or Physical Geology	5, 4
PE 125—Judo or PE 128—Wrestling	1
	16, 15 Hrs

Third Semester	**Sem Hrs**
Psych 211—General Psychology	4
Soc 211—Principles of Sociology	3
* Hist 111, 112, 221, 222	3, 4
LE 210—Introduction to Criminal Investigation	3
LE 250—Juvenile Delinquency	3
	16, 17 Hrs

Fourth Semester	**Sem Hrs**
LE 260—Legal & Criminal Behavior	3
LE 270—Evidence & Criminal Procedure	3
LE 271—Criminal Law	3
** Approved Elective	3
** Approved Elective	3
	15 Hrs

* History 111 and 112 are 4 credit hours.

** For transfer to Michigan State University and Wayne State University, a course in Social Studies and a course in Humanities is needed.

PUBLIC SERVICE: Engineering Assistant

Associate Degree Program

First Semester	Sem Hrs
Math 101—Technical Mathematics I	5
Pol Sci 103 or 111—Introduction to American Government or American Government and Politics	3, 4
Draw 105—Industrial Drafting	3
Eng 111—Freshman Composition	3
PE—Elective—Activity	1
	15, 16 Hrs

Second Semester	Sem Hrs
Math 102—Technical Mathematics II	5
Pol Sci 128—Urban Public Service	3
Draw 106—Industrial Drafting	3
Chem 111—General & Inorganic	4
PE—Elective—Activity	1
	16 Hrs

Third Semester	Sem Hrs
Phys 111—General Physics	4
Chem 112—General & Qualitative	4
Econ 221—Principles of Economics	4
Draw 156—Descriptive Geometry	3
	15 Hrs

Fourth Semester	Sem Hrs
Phys 112—General Physics	4
Arch Tech 221—Site Preparation	2
Tech Writing—Eng 113	3
Pol Sci 228—Internship*	3
Elective	3
	15 Hrs

Suggested Electives: Math 108—Elementary Statistics; Speech 112—Principles of Public Speaking.

* Internship in governmental unit may be taken in other than 4th semester.

PUBLIC SERVICE: Social Health Services Assistant

Associate Degree Program

First Semester	Sem Hrs
Eng 111—Freshman Composition	3
Elective in Humanities	3
Pol Sci 103 or 111—Introduction to American Government or American Government and Politics	3, 4
Soc 121—Marriage and the Family	3
Biol 111—General Biology*	4
	16, 17 Hrs

Second Semester	Sem Hrs
Eng 112—Freshman Composition	3
Soc 150—Community Organization	3
Pol Sci 128—Urban Public Service	4
Biol 112—General Biology*	4
P.E. Elective	1
	15 Hrs

Third Semester	Sem Hrs
Data Proc 133—Introduction to Data Processing	3
Econ 221—Principles of Economics	4
Psych 211—General Psychology	4
Soc 211—Principles of Sociology	3
Elective—Phys. Ed.	1
	15 Hrs

Fourth Semester	Sem Hrs
Econ 222—Principles of Economics*	4
Psych 231—Personality	3
Pol Sci 228—Internship**	3
Elective—Humanities	3
Soc 212—Social Problems	3
	16 Hrs

Suggested Electives: Math 108—Elementary Statistics; Speech 112—Principles of Public Speaking; Health 171—Personal Health; History 214-215—Blackman in the Americas.

*Electives may be substituted, depending on the objectives of the student, in consultation with the faculty adviser.

**Internship in government unit may be taken in other than 4th semester.

PUBLIC SERVICE: Urban Professional Assistant

Associate Degree Program

First Semester	Sem Hrs
Eng 111—Freshman Composition	3
Elective in Humanities	3
Pol Sci 103 or 111—Introduction to American Government or American Government and Politics	3, 4
Data Proc 133—Introduction to Data Processing	3
Geog 113—Regional	4
	16, 17 Hrs

Second Semester	Sem Hrs
Eng 112—Freshman Composition	3
Soc 150—Community Organization	3
Pol Sci 128—Urban Public Service	4
Speech 112—Principles of Public Speaking	3
Elective—Humanities	3
	16 Hrs

Third Semester	Sem Hrs
Econ 221—Principles of Economics	4
Psych 211—General Psychology	4
Soc 211—Principles of Sociology	3
Geog 211—Economic Geography*	4
PE—Elective—Activity	1
	16 Hrs

Fourth Semester	Sem Hrs
Econ 222—Principles of Economics	4
Soc 212—Social Problems	3
Pol Sci 228—Internship**	3
Pol Sci 227—Political Parties	3
PE—Elective—Activity	1
	14 Hrs

Suggested Elective: Math 108—Elementary Statistics; History 214-215 Blackman in the Americas.

*Electives may be substituted, depending upon the objectives of the student. Substitutes should be discussed with the faculty adviser.

**Internship in governmental unit may be taken in other than 4th semester.

TECHNICAL CAREER PROGRAMS

Associate Degree and Certificate Curricula. The technical programs at Delta College evolved at the request of local industry. After many months of study and development, these college-level courses were offered to interested students for preparing them to enter well paid positions in industry. To achieve this end, the curricula are practical in nature and job-oriented in purpose.

The current trend is toward fewer unskilled jobs and increased emphasis on technical training. The demand for skilled technicians will continue to increase along with the need for professionally trained personnel. Successful completion of a curriculum enables a vocationally oriented student to enter an available position as a member of the American Industrial team.

The programs are broad in nature, serve a variety of industrial requirements, and they provide the necessary base for future upgrading of the individual as required by a changing technology. Continual review and improvement render the curricula immediately relevant and practical.

ARCHITECTURAL TECHNOLOGY CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Arch Tech 105—Architectural Drafting I	7
Arch Tech 101—Materials and Methods of Architectural Construction	2
Math 101—Technical Mathematics I	5
PE—Elective—Activity	1
	15 Hrs

Second Semester	Sem Hrs
Arch Tech 106—Architectural Drafting II	7
Arch Tech 111—Mechanical and Electrical Equipment for Buildings	4
Eng 111—Freshman Composition	3
Art 153—History of Architecture	2
PE—Elective—Activity	1
	17 Hrs

Third Semester	Sem Hrs
Math 102—Technical Mathematics II	5
Eng 113—Technical Writing	3
	8 Hrs

Fourth Semester	Sem Hrs
Arch Tech 205—Architectural Drafting III	7
Arch Tech 221—Site Preparation	2
Phys 101—Applied Physics	5
Arch Tech 202—Specifications and Contracts	2
	16 Hrs

Fifth Semester	Sem Hrs
Arch Tech 206—Architectural Drafting IV	7
Arch Tech 211—Elements of Structural Design	4
Arch Tech 203—Estimating	2
Pol Sci 103—Introduction to American Government	3
	16 Hrs

AUTOMOTIVE SERVICE TECHNOLOGY CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Auto Tech 101—Automotive Service Orientation and Maintenance	3
Auto Tech 103—Basic Engines	3
Auto Tech 105—Electrical Systems	2
Auto Tech 106—Automotive Electricity	4
Eng 111—Freshman Composition	3
PE—Elective—Activity	1
	16 Hrs

Second Semester	Sem Hrs
Auto Tech 110—Diagnosis and Tune-Up	3
Auto Tech 111—Cranking and Charging Systems	3
Auto Tech 112—Laboratory Practice	2
Auto Tech 113—Fuel Systems	3
Math 101—Technical Mathematics I	5
PE—Elective—Activity	1
	17 Hrs

Third Semester	Sem Hrs
Auto Tech 206—Wheel Alignment	3
Auto Tech 207—Brake Service	3
Auto Tech 208—Laboratory Practice	2
Auto Tech 209—Electrical Circuits	3
Pol Sci 103—Introduction to American Government	3
Eng 112 or 113—Freshman Composition or Technical Writing	3
	17 Hrs

Fourth Semester	Sem Hrs
Auto Tech 211—Driveline Fundamentals	7
Auto Tech 212—Laboratory Practice	2
Auto Tech 213—Service Management	4
Psych 101—Applied Psychology	3
	16 Hrs

AUTOMOTIVE SERVICE CURRICULUM

Certificate Program

First Semester	Sem Hrs
Auto Tech 101—Service Orientation and Maintenance	3
Auto Tech 103—Engines	3
Auto Tech 105—Laboratory Practice	2
Auto Tech 106—Automotive Electricity	4
Math 91—Arithmetic	2
PE—Elective—Activity	1
	15 Hrs

Second Semester	Sem Hrs
Auto Tech 110—Diagnosis and Tune-Up	3
Auto Tech 111—Cranking and Charging Systems	3
Auto Tech 112—Laboratory Practice	2
Auto Tech 113—Fuel Systems	3
English 101—Contemporary English	5
	16 Hrs

Third Semester	Sem Hrs
Auto Tech 206—Wheel Alignment	3
Auto Tech 207—Brake Service	3
Auto Tech 208—Laboratory Practice	2
Auto Tech 209—Electrical Circuits	3
Pol Sci 103—Introduction to American Government	3
PE—Elective—Activity	1
	15 Hrs

Fourth Semester	Sem Hrs
Auto Tech 211—Driveline Fundamentals	7
Auto Tech 212—Laboratory Practice	2
Auto Tech 213—Service Management	4
Psych 101—Applied Psychology	3
	16 Hrs

AUTOMOTIVE SERVICE SPECIALIST CURRICULUM

Certificate Program

First Semester	**Sem Hrs**
Auto Tech (Specialist) 101—Service Orientation and Maintenance	12

Second Semester	**Sem Hrs**
Auto Tech (Specialist) 102—Electrical and Fuel System Service	12

Third Semester	**Sem Hrs**
Auto Tech (Specialist) 103—Suspension and Brake Service	12

CHEMICAL TECHNOLOGY CURRICULUM

Associate Degree Program

First Semester	**Sem Hrs**
Eng 111—Freshman Composition	3
Math 101—Technical Mathematics	5
Chem 101—General Chemistry	5
Chem Tech 111—Introduction to Chemical Technology	3
	16 Hrs

Second Semester	**Sem Hrs**
Chem 102—General Chemistry	3
Phys 121—Chemical Physics	2
Chem Tech 112—Chemical Technology Calculations	5
Eng 113—Technical Writing	3
Elec Tech 235—Electrical Circuits	4
	17 Hrs

Third Semester	**Sem Hrs**
Chem Tech 211—Principles of Organic Compounds	5
Chem Tech 215—Physical Principles	5
Chem Tech 235—Industrial Laboratory Methods I	6
PE—Elective—Activity	1
	17 Hrs

Fourth Semester	**Sem Hrs**
Chem Tech 221—Chemical Processes Calculations	3
Chem Tech 250—Seminar and Special Projects	2
Chem Tech 236—Industrial Laboratory Methods II	6
Pol Sci 103—Introduction to American Government	3
Elective	2
PE—Elective—Activity	1
	17 Hrs

Suggested Electives: Speech 112—Principles of Public Speaking; Speech 214—Discussion Techniques; Drafting 105—Industrial Drafting.

DRAFTING CURRICULUM

Certificate Program

First Semester (September)	**Sem Hrs**
Dr 101—Engineering Drawing	10
Mech Tech 111—Manufacturing Processes	3
	13 Hrs

Second Semester (January)	**Sem Hrs**
Dr 102—Tool Design	10
Dr 110—Dimensional Measurement	4
	14 Hrs

Third Semester (April)	**Sem Hrs**
Dr 103—Die Design	10
Mech Tech 213—Machine Tools	3
	13 Hrs

ELECTRONIC TECHNOLOGY CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Math 101—Technical Mathematics I	5
Dr 105—Industrial Drafting	3
Eln Tech 111—Fundamentals of DC Circuits	4
Eln Tech 115—Electronic Devices	2
PE—Elective—Activity	1
	15 Hrs

Second Semester	Sem Hrs
Math 102—Technical Mathematics II	5
Eln Tech 112—Fundamentals of AC Circuits	3
Eln Tech 116—Electronic Devices and Circuits	2
Mech Tech 213—Machine Tools	3
Eng 111—Freshman Composition	3
	16 Hrs

Third Semester	Sem Hrs
Math 103—Technical Mathematics III	5
Eln Tech 213—Solid State Devices, AC and DC	3
Eln Tech 241—Machines and Controls	2
Phys 111—General Physics	4
Eng 113—Technical Writing	3
	17 Hrs

Fourth Semester	Sem Hrs
Eln Tech 214—Design of Electronic Circuits	4
Eln Tech 215—Electronic Control and Automation	4
Mech Tech 250—Electronic Mechanics	3
Chem 101—General Chemistry	5
PE—Elective—Activity	1
	17 Hrs

Fifth Semester	Sem Hrs
Dr 216—Electrical Drafting	2
Eln Tech 231—Electronic Fabrication	3
Sp 112—Principles of Public Speaking	3
Econ 111—Essentials of Economics	3
Pol Sci 103—Introduction to American Government	3
Bus Mach 175—Machine Calculation	2
	16 Hrs

INSTRUMENTATION TECHNOLOGY CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Math 101—Technical Mathematics I	5
Dr 105—Industrial Drafting	3
Eln Tech 111—Fundamentals of DC Circuits	4
Eln Tech 115—Electronic Devices	2
PE—Elective—Activity	1
	15 Hrs

Second Semester	Sem Hrs
Math 102—Technical Mathematics II	5
Eln Tech 112—Fundamentals of AC Circuits	3
Eln Tech 116—Electronic Devices and Circuits	2
Mech Tech 213—Machine Tools	3
Mech Tech 220—Introduction to Fluid Power	3
PE—Elective—Activity	1
	17 Hrs

Third Semester	Sem Hrs
Math 103—Technical Mathematics III	5
Eln Tech 213—Solid State Devices	3
Eln Tech 241—AC and DC Machines and Controls	2
Phys 111—General Physics	4
Eng 111—Freshman Composition	3
	17 Hrs

Fourth Semester	Sem Hrs
Eln Tech 214—Design of Electronic Circuits	4
Eln Tech 215—Electronic Control and Automation	4
Eln Tech 252—Basic Industrial	4
Bus Mach 175—Machine Calculation	2
Electives	3, 4
	17, 18 Hrs

Fifth Semester	Sem Hrs
Dr 216—Electrical Drafting	2
Eln Tech 231—Electronic Fabrication	3
Sp 101—Fundamentals of Speech for Engineering Students	3
Econ 111—Principles of Economics	3
Pol Sci 103—Introduction to American Government	3
Eng 113—Technical Writing	3
	17 Hrs

MECHANICAL TECHNOLOGY CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Dr 105—Industrial Drafting	3
Mech Tech 111—Manufacturing Processes	3
Math 101—Technical Mathematics I	5
Eng 111—Freshman Composition	3
PE—Elective—Activity	1
	15 Hrs

Second Semester	Sem Hrs
Dr 106—Industrial Drafting	3
Math 102—Technical Mathematics II	5
Phys 101—General Physics	5
Eng 113—Technical Writing	3
PE—Elective—Activity	1
	17 Hrs

English 113 may be replaced with English 112

Third Semester	Sem Hrs
Dr 156—Descriptive Geometry	3
Mech Tech 213*—Machine Tools	3
Mech Tech 220*—Introduction to Fluid Power	3
Econ 111—Essentials of Economics	3
Mech Tech 215*—Methods of Engineering	3
	15 Hrs

Fourth Semester	Sem Hrs
Mech Tech 205—Basic Kinematics	3
Mech Tech 221*—Metallurgy	3
Mech Tech 251—Mechanics	3
Pol Sci 103—Introduction to American Government	3
Eln Tech 235—Electrical Circuits	4
	16 Hrs

Fifth Semester	Sem Hrs
Mech Tech 256—Machine Design	3
Mech Tech 252—Strength of Materials	3
Chem 101—General Chemistry	4
Sp 112—Principles of Public Speaking	3
Elective	3
	16 Hrs

Suggested Electives: Specific electives may be taken only with the prior consent of a faculty advisor. Data Processing 133, Mathematics 161, Mathematics 116, Mathematics 147, Mechanical Technology 261, Mechanical Technology 281, Electronic Technology 111, Electronic Technology 112, Business Machines 175, Mechanical Technology 282.

* May be taken third or fourth semesters.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Associate Degree Program

First Semester	Sem Hrs
RC 101—Construction Print Interpretation	3
RC 102—Building Materials	4
RC 103—Framing Square	5
RC 104—Construction Laboratory I	2
Pol Sci 103—Introduction to American Government	3
	17 Hrs

Second Semester	Sem Hrs
RC 105—Building Site Surveying	5
RC 106—Concrete Slab Work	4
RC 107—Footings and Foundations	5
Eng 111—English Composition	3
	17 Hrs

Third Semester	Sem Hrs
RC 201—Rough Framing and Outside Finishing	5
RC 202—Building Materials Estimation	3
RC 203—Construction Laboratory II	5
Eng—Elective	3
PE—Elective—Activity	1
	17 Hrs

Fourth Semester	Sem Hrs
RC 204—Inside Finishing and Hardware	5
RC 205—Cabinet Making and Millwork	5
RC 206—Electrical-Mechanical-Plumbing Equipment	3
Psych 101—Applied Psychology	3
PE—Elective—Activity	1
	17 Hrs

COURSE DESCRIPTION

Courses in a particular subject field are distinguished by identifying numbers and course titles. The credit value of each course is indicated in semester hours following the title of the course.

The course numbering system is as follows:

1. Courses numbered below 100 carry service credit only, not college credit, and are usually not transferable to other colleges.

2. Courses numbered above 100 are college credit courses; however, not all such courses are applicable to baccalaureate degree programs. (See Program of Study Section.)

3. Courses numbered above 200 are intended chiefly for sophomores but may be elected by freshmen in some cases.

4. The 290-299 courses designate specific projects rather than specific courses.
291—Independent Study-Special study on an independent basis.
292—Travel—Foreign and Domestic
293—Special Projects or Topics—Offered as a regular class to more than one student.
294—Seminar—Offered as a regular class to more than one student.
(Numbers 293 and 294 appear on the schedule of classes for a given semester.)
295 through 299 are assigned to a given course as the need arises.

Those courses which have definite prerequisites are so indicated, otherwise there is no prerequisite.

The first number in parentheses following the course description indicates the number of lecture hours per week, and the second number indicates the number of laboratory hours per week.

Most of the courses listed will be offered during a complete academic year. A schedule of classes is issued in March for the following Spring and Fall semesters, and in October for the following Winter semester.

If the student needs additional information regarding courses or transfer credit he should consult his adviser or the Student Services Office.

Subject matter groupings under each division are arranged in alphabetical order as follows:

- Business Division
  - Accounting
  - Business Machines
  - Cooperative Education
  - Data Processing
  - Distributive Education
  - General Business
  - Real Estate
  - Secretarial Science
- English Division
- Health, Physical Education and Recreation Division
  - Activity Courses
  - Theory Courses
- Humanities Division
  - Art
  - Languages
    - French
    - German
    - Russian
    - Spanish
  - Library Science
  - Music
  - Philosophy
  - Radio-Television
  - Speech
- Mathematics Division
- Nursing Division
- Allied Health Programs
  - Dental Assistant
  - Radiologic Technology
- Science Division
  - Agriculture
  - Aviation
  - Basic Science
  - Biology
  - Chemical Technology
  - Chemistry
  - Fire Protection
  - Geography
  - Geology
  - Physical Science
  - Physics
- Social Science Division
  - Economics
  - History
  - Law Enforcement
  - Political Science
  - Psychology
  - Sociology
- Technical Division
  - Architecture
  - Automotive
  - Drafting
  - Electronic Technology
  - Mechanical Technology
  - Residential Construction Technology

BUSINESS DIVISION

Division Chairman – Dale F. Keyser, Associate Professor

Associate Professor	Assistant Professor	Instructor
Floyd A. Feusse	James A. Christensen	Robert M. Boeke
Frances B. Gainey	Richard J. Ferrando	Joyce D. Brown
Robert N. Lees	Peggy E. Hammontree	Donald J. Muller
Marjorie M. Leeson	William R. Hieber	Richard F. Niemann
Aline A. Lynch	Carol A. Jacobs	Betty J. Roberts
	Isaac W. J. Keim III	Lois W. Sears
	Donna M. McCloy	Rhosan D. Stryker
	Dennis E. McNeal	Iwa W. Ware
	Mary E. Smith	

ACCOUNTING

Acct 111 Introductory Accounting 3 Sem Hrs

Introduces concepts of accounting as related to the double entry process of recording data in various journals, posting to general and special ledgers, preparation of work-sheet and periodic financial statements. Elements studied are assets, liabilities, proprietorship, income, expense, depreciation. Accruals, deferrals, and adjustments are also covered. Completion of a practice set is required. (3-0)

Acct 112 Introductory Accounting 3 Sem Hrs

Prerequisite: Accounting 111. Includes the voucher system; payroll, sales, and property taxes; partnership formation and procedures; corporate formation, records, surplus, dividends, stocks and bonds. (3-0)

Acct 113 Social Security and Payroll Accounting 2 Sem Hrs

Prerequisite: Accounting 111 or Accounting 211. Considers Federal Social Security laws and State Unemployment Compensation laws as applied to business. Automated payroll machines and systems are introduced. A brief survey of other Michigan tax laws is included. (2-0)

Acct 211 Principles of Accounting 4 Sem Hrs

Prerequisite: None. Introduces the functions of accounting, data accumulation, the concept of the accounting cycle, and the basic procedures for recording business data. A study of the accrual concept and related documents, role of taxes in decision making, formation of a corporation, accounting for the various elements of stockholders' equity, methods available for evaluating the adequacy of earnings and the efficiency of the use of assets. (4-1)

Acct 212 Principles of Accounting 4 Sem Hrs

Prerequisite: Accounting 211. A study of earnings determination, assets and liability valuation, and internal accounting for management. Topics studied are: cash and cash control, receivables and sales revenue, investments, inventories and cost of goods sold, plant and intangible assets, corporation bonds, appraising and controlling departmental operations, basic cost concepts and systems for accumulating costs, incremental analysis, capital expenditure decisions, budgeting, funds flow, cash flow, subsidiary ledgers, voucher system, single proprietorships and partnerships. (4-1)
Note: Credit will not be given for both Accounting 111 and 211, or Accounting 112 and 212.

Acct 213 Cost Accounting 3 Sem Hrs

Prerequisite: Accounting 112 or Accounting 212. Relates principles and methods of handling materials, labor costs, and manufacturing expenses to the formulation of reports to management. Includes job order, process, and standard direct costing procedures. A job order practice set is completed. (3-0)

Acct 214 Advanced Cost Accounting 3 Sem Hrs

Prerequisite: Accounting 213. Emphasis on the role of cost and profit data as applied to the decisions of management. Subjects treated: Estimated cost, budgetary control and flexible budgets, analysis and control of distribution costs, cost-profit-volume analysis, differential cost analysis, return on capital employed, and pricing policies. (3-0)
Note: Senior colleges may prefer to have their accounting majors take this advanced course at their institutions.

Acct 215 Federal Tax Accounting 3 Sem Hrs

Prerequisite: Accounting 112 or Accounting 212. Studies the Federal Income Tax law. Emphasis is placed on the application to the individual and the single proprietorship business, although some references are made to the corporation. The individual tax return is prepared. (3-0)

Acct 217 Auditing Theory and Procedure 3 Sem Hrs

Prerequisite: Accounting 112 or Accounting 212. Surveys principles and procedures of auditing; attention is given to auditing concepts, professional ethics and responsibility, the audit program, auditing procedures, working papers, and simple audit reports. Completion of an integrated case study which involves the preparation of the working papers and the report for a complete audit is required. (3-0)

Acct 223 Intermediate Accounting 4 Sem Hrs

Prerequisite: Accounting 212 or permission of Division Head. Added development of accounting knowledge previously gained in introductory courses. Scope of material covered: correction of prior year's earnings, stock options and splits, basic accounting assumptions, internal control, limits on credit, inventory adjustments, and matters relevant to investments in stock. (4-0)

Acct 224 Intermediate Accounting 4 Sem Hrs

Prerequisite: Accounting 223. Material coverage relates to appraisal methods for fixed and intangible assets, operating reserves, ratio analysis, operations analysis, working capital and cash flow statements, quasi-reorganization, tax allocation, and the impact of inflation on financial statements. (4-0)

Acct 290-299 Special Problems in Accounting

(See Page 49)

BUSINESS MACHINES

Bus Mach 171 Beginning Typewriting 2 Sem Hrs

Prerequisite: None. Mastery of the keyboard and practice in basic skills and machine techniques of the touch system of typewriting, simple centering, tabulations, placement, and common letter forms. May be taken for personal use. (2-2)

Bus Mach 172 Intermediate Typewriting 2 Sem Hrs

Prerequisite: Business Machines 171 or its equivalent. Vocational training for business. Development of accuracy and speed; business and personal letters, rough drafts, tabulations, reports and simple business forms. Exploratory experience in the use of transcribing machines and duplicating processes is given. (2-2)

Bus Mach 175 Machine Calculation 2 Sem Hrs

Prerequisite: Proficiency in arithmetic. Deals with the basic operations of calculators, electronic calculators, printing calculators, key-driven calculators, ten-key and full-key adding-listing machines. Three hours weekly. (2-1)

Bus Mach 176 Machine Calculation 2 Sem Hrs

Prerequisite: Business Machines 175. A continuation of Business Machines 175, with emphasis placed on vocational efficiency and speed of manipulation on the various calculators and printing calculators. Three hours weekly. (2-1)

Bus Mach 273 Advanced Typewriting 2 Sem Hrs

Prerequisite: Business Machines 172 or its equivalent. Typing of typical business projects at a rate equivalent to that expected in an office. Advanced drill and copy work to develop speed and accuracy. Stress placed on statistical typewriting. (2-2)

Bus Mach 274 Voice Transcription and Copying Machine Procedures 2 Sem Hrs

Prerequisite: Business Machines 172 or its equivalent. Provides: (1) Training in the skillful operation of voice transcription machines such as Dictaphone, Edison Voice Writer, and IBM Executary; (2) Survey of copying machines, with practice in the preparation of materials, and operation of several commonly used machines. (2-2)

Bus Mach 290-299 Special Problems in Business Machines

(See Page 49)

COOPERATIVE EDUCATION

Coop Ed 121 Cooperative Office Education 3 Sem Hrs

Prerequisite: Employable skill and consent of coordinator. Places the student in a school or business office for supervised, on-the-job experience. Evaluations are made by the employer and the coordinator. Class meets with the coordinator one hour each week. Term paper and/or project reports required on each student. (1-15)

Coop Ed 122 Cooperative Office Education 3 Sem Hrs

Prerequisite: Cooperative Education 121. A continuation of Cooperative Education 121, with additional responsibilities at the work station. Term paper or project reports required of each student. (1-15)

Coop Ed 125 Cooperative Distributive Education 3 Sem Hrs

Prerequisite: Employable skill and consent of coordinator. Places the student in a distributive occupation for supervised, on-the-job experience. Evaluations are made by the employer and the coordinator. Class meets with the coordinator one hour each week. Term paper and/or project reports required of each student. (1-15)

Coop Ed 126 Cooperative Distributive Education 3 Sem Hrs

Prerequisite: Cooperative Education 125. A continuation of Cooperative Education 125, with additional responsibilities at the work station. Term paper or project reports required of each student. (1-15)

Coop Ed 221 Cooperative Office Education 3 Sem Hrs

Prerequisite: Cooperative Education 122. A continuation of Cooperative Education 122, with the introduction of new duties or responsibilities; additional research is done. (1-15)

Coop Ed 222 Cooperative Office Education 3 Sem Hrs

Prerequisite: Cooperative Education 221. A continuation of Cooperative Education 221, with added duties or responsibilities; further research. (1-15)

Coop Ed 225 Cooperative Distributive Education 3 Sem Hrs

Prerequisite: Cooperative Education 126. A continuation of Cooperative Education 126, with the introducing of new duties or responsibilities; more research is done. (1-15)

Coop Ed 226 Cooperative Distributive Education 3 Sem Hrs

Prerequisite: Cooperative Education 225. Continuation of Cooperative Education 225, with added duties or responsibilities; further research. (1-15)

Coop Ed 290-299 Special Problems in Cooperative Education

(See Page 49)

DATA PROCESSING

Data Proc 179 Key Punching and Verifying 2 Sem Hrs

Prerequisite: Business Machines 171, or equivalent. Builds skill in key punching and verifying the IBM card. Students who successfully complete the course will have sufficient knowledge to do productive work on the IBM card punch and verifier. A background in terminology and use of the punched card is provided. (2-2)

Data Proc 133 Introduction 3 Sem Hrs

Prerequisite: None. Provides a basic orientation to the field of computers and their usage. Scope of course includes the punch card, design and uses; tabulating equipment, functions and applications; computer, brief history, input and output devices, study of the 1620 computer, SPS, FORTRAN, and applications. (3-1)

Data Proc 134 Data Processing Machine Operation 3 Sem Hrs

Prerequisite: Data Proc. 133. The major emphasis will be on console operation procedures for the 360-40 computer and operation of unit record equipment. The student will wire control panels for the collator, interpreter, reproducer, and accounting machine. Since procedures and data flow will be stressed, additional job applications will be run by the students which emphasize utilization of manuals, job documentation, and controls. (3-1)

Data Proc 235 Data Processing Applications 3 Sem Hrs

Prerequisite: Data Processing 133. A study of data processing systems and procedures involving analysis of various existing data processing applications in business and industry. Includes a study of integrated or total management information and data processing systems. Emphasis is given to developing detailed procedures in various areas of management. The course is designed to study the three phases necessary: Analysis of present information flow; System specification and equipment; Implementation and documentation of the system. (3-0)

Data Proc 239 360 Basic Assembler Language 3 Sem Hrs

Prerequisite: Data Processing 133. Data Processing 134 recommended. Designed for students who wish to understand, use and program the IBM System /360 in business and data processing. The course will include fundamental concepts of the System /360, commands and constants using Basic Assembler Language, and programming typical applications on BAL. (3-0)

Data Proc 243 Report Program Generator Programming 2 Sem Hrs

Prerequisite: Data Processing 133. Input, data, calculation and output specifications statements for reporting and routine accounting applications will be covered. Programs will be written, compiled and tested. (2-0)

Data Proc 245 COBOL Programming 3 Sem Hrs

Prerequisite: Data Processing 133. The early part of the course will include the advantages of COBOL, its strength, potential applications and basic rules. The major portion of the course will concern itself with programming, compiling and testing typical applications. (3-0)

Data Proc 246 PL/I Programming 3 Sem Hrs

Prerequisite: Data Processing 133. The early part of the course will include the advantages of PL/I, potential applications and basic rules. The major portion of the course will concern itself with programming, compiling and testing typical applications. (3-0)

Data Proc 290-299 Special Problems in Data Processing

(See Page 49)

DISTRIBUTIVE EDUCATION

Dist Ed 141 Transportation and Traffic Management 3 Sem Hrs

Prerequisite: None. Provides information, practice, and techniques necessary to qualify for position on the Traffic Management Divisions of larger industry and carrier companies. Covers history of American transportation systems, developments leading to Federal regulation of carriers other than railroad, classification of freight rates and tariffs, shipping documents and their application in freight claims. (3-0)

Dist Ed 142 Transportation and Traffic Management 3 Sem Hrs

Prerequisite: Distributive Education 141. Deals with tariff circulars, construction and filing of tariffs, freight rates and tariffs, terminal facilities and switching, demurrage, transit privileges, warehousing and distribution, materials handling and packaging. (3-0)

Dist Ed 143 Advertising 3 Sem Hrs

Prerequisite: General Business 153. Stresses the manifold goals of advertising and its role in a marketing communications program as needed by tomorrow's professional managers. An appreciation of the rationale and strategies behind advertising campaigns is presented. (3-0)

Dist Ed 145 Sales 3 Sem Hrs

Prerequisite: None. Brings the marketing concept into sales education. Information on psychology, sociology, economics, and communications is employed in a contemporary concept of salesmanship. (3-0)

Dist Ed 241 Transportation and Traffic Management 3 Sem Hrs

Prerequisite: One semester of Transportation and Traffic Management on consent of division chairman. Includes through routes and rates, milling in transit, technical tariff and rate interpretation, overcharges and undercharges, losses and damages, and a review of decisions of the Interstate Commerce Commission. (3-0)

Dist Ed 242 Transportation and Traffic Management 3 Sem Hrs

Prerequisite: Transportation and Traffic Management 241 or consent of division chairman. Includes evaluation of the Interstate Commerce Act, its interpretation and application, procedures and practice before the Interstate Commerce Commission, Statutory authority for awarding damages, and a review of the Interstate Commerce Commission. (3-0)

Dist Ed 243 Marketing 3 Sem Hrs

Prerequisite: General Business 153. Provides an understanding and interpretation of the marketing system and its importance in the economy and the place of the marketing function in business management. The marketing framework is established and a basic understanding of the processes, functions, and channels is presented. Role of the government in marketing procedure is emphasized. (3-0)

Dist Ed 245 Principles of Management 3 Sem Hrs

Prerequisite: General Business 153. Designed to train students in the analysis of management problems and the synthesis of solutions. Theories of management practices are discussed and fundamentals of administrative, executive, and staff management explained. Emphasis is placed on preparation of information required for decision making. (3-0)

Dist Ed 247 Retailing 3 Sem Hrs

Prerequisite: General Business 153. Investigates methods used by retail businesses to plan the marketing of merchandise in relation to time, place, quantities, and price. The importance of advertising, sales promotion, layout and display, accounting procedures and controls, use of financial data and human resources is recognized. (3-0)

Dist Ed 290-299 Special Problems in Distributive Education

(See Page 49)

GENERAL BUSINESS

Gen Bus 110 Business Computation 3 Sem Hrs

Prerequisite: Mathematics 91 if mathematics placement test score is unsatisfactory. Rapid calculations with whole numbers, fractions and percents, various methods of checking results, interest, discount, depreciation, installment purchases, payrolls, insurance, and graphs. (3-0)

Gen Bus 151 Business Communications 3 Sem Hrs

Prerequisite: Typewriting 171 or its equivalent, or Typewriting 171 taken concurrently. Teaches principles of effective oral and written communications. Practice provided in letter writing, preparation of management message, compilation and completion of job applications, communications by telephone and wire, techniques of dictating, courteous interchange of thought. (3-0)

Gen Bus 152 Business Communications 3 Sem Hrs

Prerequisite: Business Communications 151. Studies the influence of oral and written communication upon human relations in business, and applies effective methods that may be used. Emphasis placed on tone, form, accuracy, clarity, appeal and psychology in writing letters and reports. Designed also for increasing the business vocabulary, and understanding current business literature. (3-0)

Gen Bus 153 Business Organization 3 Sem Hrs

Prerequisite: None. Clarifies the role of business in modern society. The significant relationships which exist between business and the social, political and economic environment are stressed. The inter-connection between business and other institutions in our environment is emphasized. (3-0)

Gen Bus 157 Filing and Records Management 3 Sem Hrs

Prerequisite: None. (Formerly GB155,6,7) Emphasis is placed on practical application of the basic rules of filing in alphabetic, numeric, geographic, and subject filing systems. Includes also a study of the complete records cycle, procedures for operation and control of filing methods and records, selection of equipment and supplies, supervision of personnel, and an understanding and awareness of the increasingly important area of records management. (3-0)

Gen Bus 251 Business Law 3 Sem Hrs

Prerequisite: None. Introduces the court system; a study of contracts, agency, employment, personal property, and bailments. (3-0)

Gen Bus 252 Business Law 3 Sem Hrs

Prerequisite: Business Law 251 or consent of the chairman of the Business Division. A study of partnerships and corporations, real property, negotiable instruments, sales, trusts and estates, government and business. (3-0)

Gen Bus 253 Credit and Collections 3 Sem Hrs

Prerequisite: None. Presents a practical study of the meaning and importance of credit, with particular attention given to management's credit operations and problems. Some Specific areas covered are: extent of retail credit, source of credit information; legal aspects, policies and procedures; collection methods. (3-0)

Gen Bus 255 Office Management 3 Sem Hrs

Prerequisites: Business Communications 151 and Typewriting 171, or consent of division chairman. Presents the principles of office organization, together with current concepts of planning, controlling, and managing. Emphasis given to personnel, equipment and supplies, simplification of work, reports for production and distributive services. Recognition given to the role of human relations in effecting efficient, harmonious activities. The case study method is employed. (3-0)

Gen Bus 257 Corporation Finance 3 Sem Hrs

Prerequisite: Econ 111 or 221 and Acct 213. The policies and techniques of financing various types of business enterprises; Stresses the sources of funds and the managerial use of funds, examining the conflict between liquidity and profitability that the finances must consider. (3-0)

Gen Bus 290-299 Special Problems in General Business

(See Page 49)

REAL ESTATE COURSES

RE 181 Real Estate Principles I 3 Sem Hrs

Prerequisite: None. This fundamental course is planned to provide a general overview of real estate to those persons contemplating entering the business. Content will include scope and organization, economics, legal aspects, the nature of real property, ownership, and property rights. (3-0)

RE 182 Real Estate Principles II 3 Sem Hrs

Prerequisite: RE 181 or field experience. This course is a continuation of RE 181 designed as a general knowledge course for those entering the profession as well as those presently in the business who do not have formal training in real estate. Considers financing, brokerage, future trends, and property evaluation. (3-0)

RE 183 Real Estate Procedure 3 Sem Hrs

Prerequisites: RE 181 and RE 182. The student will study day-to-day operations in real estate roles and brokerage, including listing, prospecting, advertising, closing, sales techniques, escrow and ethics. This course covers much of the material required in the broker's exam. (3-0)

RE 281 Real Estate and Government 3 Sem Hrs

Prerequisites: RE 181 and RE 182. The effect of government regulations upon real estate will be covered in detail, as well as open housing, urban renewal, pollution, and zoning. The course will also cover real estate associations such as the National Association of Real Estate Boards, National and Multiple listing services, National Association of Home Builders, and others. (3-0)

RE 282 Real Estate Finance 3 Sem Hrs

Prerequisites: RE 181 and RE 182. Regulations and procedures for financing real estate; types of lenders; methods of qualifying for loans; uses of mortgages, trust deeds, leases, mathematics of real estate finance and financial analysis of real properties. (3-0)

RE 283 Real Estate Appraisal 3 Sem Hrs

Prerequisites: RE 181 and RE 182. Residential appraisal, principles of real estate valuations, cost market data, summation and sales analysis, methods of appraising, estimating, current trends and techniques, single and multiple family dwellings, vacant land, actual field experience is included. (3-0)

RE 290-299 Special Problems in Real Estate

(See Page 49)

SECRETARIAL SCIENCE

Sec Sc 161 Beginning Shorthand 4 Sem Hrs

Prerequisite: None. Theory of Gregg Shorthand, Diamond Jubilee Method. Includes development of skill in reading, intentive study of brief forms, writing of practiced and new materials, pre-transcription training. Laboratory assignment required. (4-1)

Sec Sc 162 Intermediate Shorthand 4 Sem Hrs

Prerequisite: Shorthand 161 and Typewriting 171, or equivalents. Must be accompanied by Typewriting 172 or 273. Designed to increase speed in taking new-matter dictation. Builds transcription skills, includes English, grammar review, vocabulary study, and spelling. Laboratory assignments required. (4-1)

Sec Sc 165 Orientation to Medical Office Work 1 Sem Hr

Prerequisite: None. Basic information about medical assistant opportunities and responsibilities. Medical terminology is introduced. (1-0)

Sec Sc 166 Orientation to Community Health Services 1 Sem Hr

Prerequisite: None. Introduction to the public and private agencies closely allied with work of the medical assistant. Study of medical terminology continued. (1-0)

Sec Sc 181 Beginning Stenographic Machine Shorthand 4 Sem Hrs

Prerequisite: Business Machine 171 or its equivalent or consent of division chairman. Theory is presented through a system of phonetic writing employing the Stenograph machine, which imprints in English letters. Dictation given on practiced and new materials. The student should be able to take accurate notes at the rate of 60 to 80 words per minute. Transcription is introduced. (4-1)

Note: Additional stenographic machine shorthand courses will be added as needed.

Sec Sc 261 Secretarial Practices 3 Sem Hrs

Prerequisites: Business Communications 151 and Typewriting 172, or consent of division chairman. Broadens the secretary's concept of management in business. Attention given to developing an acceptable secretarial personality. Augments knowledge and skill in working with people, and in handling information in the areas of correspondence and reports, communications, calculating, mailing, filing. Related work assignments required. (3-0)

Sec Sc 263 Dictation and Transcription 4 Sem Hrs

Prerequisite: Shorthand 162. Emphasizes speed and accuracy in transcribing mailable letters. Extends the development of writing speeds on new-matter dictation. Introduces special techniques in handling office dictation. Laboratory assignment required. (4-0)

Sec Sc 264 Speed Building and Specialized Shorthand 3 Sem Hrs

Prerequisite: Dictation and Transcription 263 or consent of division chairman. Students are expected to attain high speed in taking and transcribing dictation. Offers specialized vocabularies and materials in the chemical, legal, medical, reporting, and technical fields, according to career interest of the student. Laboratory assignments required. (3-0)

Sec Sc 265 Nursing Arts 3 Sem Hrs

Prerequisite: Orientation courses 165 and 166, and one course in Biology, or consent of chairman of the Business Division. Designed to provide knowledge and skills which will enable the medical assistant to work cooperatively and efficiently with doctor, members of staff, patients; to train the student in simpler techniques of nursing so that she may assist the doctor; to provide an appreciation of medical care so that she may interpret accurately to the public and health processes in her community. (3-1)

Sec Sc 266 Orientation to the Medical Laboratory 3 Sem Hrs

Prerequisite: Sec. Sci. 265, or consent of division chairman. Lectures, demonstrations, and laboratory experience to familiarize the student with laboratory procedures commonly used in the medical office. Emphasis on terminology used in reporting findings; mixing and standardizing common solutions and reagents. An acquaintanceship with microbiology and bacteriology; qualitatives urinalysis, hematology, microscopical examination of smears and sediments, EMR and EKG determinants. (3-1)

Sec Sci 290-299 Special Problems in Secretarial Science

(See Page 49)

ENGLISH DIVISION

Division Chairman—Maurice S. Alberda, Associate Professor

Associate Professor

Brendan R. Cahill
Genevra H. Grossman
Dr. Leticia S. Molter

Assistant Professor

Geraldine R. Anderson
Pauline K. Drumm
Joan B. Gronewold
Gerald L. Hall
Donald B. Halog
William C. Harman
Fred W. Renker, Jr.
Charlotte W. Seiler
Alice B. Ziegler

Instructor

John F. Augustine
Dana E. Blackwell
Virginia F. Cummings
Michael A. DeCarbo
Gerald V. Ellison
Terry A. Hunter
Mitchell H. Jarosz
Martha J. Keil
Martha S. Maner
Stephen Marcus
Antonio Marquez
Suzanne McConnell
James M. McGinty
Elizabeth Redington
Gary B. Roelofs

Eng 66 Reading Development 3 Hrs Service Credit

Prerequisite: None. Development of general reading ability. Emphasis on flexibility of rate and comprehension of content materials. Each student will receive individual attention for specific reading or study difficulties. (3-0)

Eng 72 Improvement English 4 Hrs Service Credit

Prerequisite: None. Fundamentals of written composition are practiced. Content and organization of themes, vocabulary, spelling, sentence structure and paragraphing are included with orientation to the needs of the student. (4-0)

Eng 73 Improvement English 3 Hrs Service Credit

Prerequisite: English 72 or adequate scores on placement tests. Review of grammar, vocabulary, and written expression in preparation for English 111. Achievement in composition is stressed. (3-0)

Eng 81 English as a Second Language 4 Hrs Service Credit

Prerequisite: None. A practical study of English to develop the reading, writing, understanding, and speaking competency of foreign speaking students. The course serves as preparation for English 111 and English 112. (4-0)

Eng 101 Contemporary English 5 Sem Hrs

Prerequisite: None. Instruction and experience in the skills of reading, writing, and oral communication with emphasis on practical use. Credit toward certain specified certificate programs. (5-0)

Eng 111 Freshman Composition 3 Sem Hrs

Prerequisite: None. Development of competence in reading and writing with emphasis on various kinds of writing. (3-0)

Eng 112 Freshman Composition 3 Sem Hrs

Prerequisite: English 111. A continuation of English 111 with emphasis on reading literay selections as well as further practice in writing. (3-0)

Eng 113 Technical Writing 3 Sem Hrs

Prerequisite: English 111. Techniques for written presentation of technical material in formal and informal reports. The emphasis will be on general principles with specific applications in conjunction with technical courses or actual job experience. (3-0)

Eng 115 Basic Journalism Skills 2 Sem Hrs

Prerequisite: None. History and principles of journalism; introductory advertising, news gathering and reporting. Feature and editorial writing and the necessary skills needed in proof reading and editing are stressed. (2-0)

Eng 116 News Reporting 2 Sem Hrs

Prerequisite: None. Principles and practice of reporting for newspapers and other mass media. Study of history and ethics of journalism. (2-0)

Eng 121 Reading Techniques 2 Sem Hrs

To assist the average or better reader in developing reading skills, flexible reading rates, and increased comprehension while reading faster. Critical and analytical reading techniques, skimming, and scanning are developed. (2-0)

Eng 211 Advanced Composition 3 Sem Hrs

Prerequisite: English 112. Instruction and practice in expository and argumentative writings based on the reading of literary selections. (3-0)

Eng 221 Introduction to Literature 3 Sem Hrs

Prerequisite: English 112. Designed to increase the student's appreciation of literature. Emphasis will be placed on readings in the short story and poetry. (3-0)

Eng 224 Popular Literature 3 Sem Hrs

Prerequisite: English 112 or permission of instructor. An examination of a particular body of popular literature, organized by the selection of material either from the works of one author or one genre (e.g. Science Fiction, Black Humor, War Novels, etc.). Course content to be announced each semester prior to registration. (3-0)

Eng 231 Modern Poetry 3 Sem Hrs

Prerequisite: English 112. A study of the background, the developments, and the current state of modern poetry, with emphasis on poems by American and British authors. (3-0)

Eng 241 Introduction to Mythology 3 Sem Hrs

Prerequisite: English 112. A study of the myths of Greece, Rome, and the Levant as they have appeared in **The Iliad, The Odyssey, The Metamorphoses, The Aeneid,** and **The Old Testament,** with emphasis on their relationship to modern literature. (3-0)

Eng 251 Children's Literature 3 Sem Hrs

Prerequisite: English 112 and speech course. A survey of literature for children in the elementary grades, aimed at developing techniques for using books with children, story telling, and the criteria for book selection. (3-0)

Eng 252 Creative Writing 3 Sem Hrs

Prerequisite: English 112 and permission of the instructor. Through analysis of various forms of writing and frequent compositions, the student is encouraged to develop writing skills according to his own interests and abilities. (3-0)

Eng 261 Dramatic Literature 3 Sem Hrs

Prerequisite: English 112. Designed to develop appreciation of dramatic literature, this course is concerned with nature, purpose, and methods of drama. Reading of representative plays from Shakespeare to the present. (3-0)

Eng 271 American Literature 3 Sem Hrs

Prerequisite: English 112. Major movements and themes in American literature as they appear in the works of important authors from the Puritan period to and including the Age of Romanticism are studied. (3-0)

Eng 272 American Literature 3 Sem Hrs

Prerequisite: English 112. A continuation of English 271. Study of major movements and themes in American Literature from Walt Whitman through the Age of Realism and New Directions. (3-0)

Eng 275 The Negro in American Literature 3 Sem Hrs

Prerequisite: English 112. Designed to develop understanding of the way black people have been portrayed in American literature. Student will read, discuss and write about both black and white writers with emphasis on modern authors such as DuBois, Hughes, Ellison and Baldwin. (3-0)

Eng 276 Contemporary American Fiction (1945 to the present) 3 Sem Hrs

Prerequisite: English 112. A study of trends, techniques, and themes in recent American fiction. The student will read, analyze, and criticize the works of such writers as Updike, Cheever, O'Connor, Baldwin, Ellison, Bellow, Salinger, Malamud and Mailer. (3-0)

Eng 281 British Literature 3 Sem Hrs

Prerequisite: English 112. A survey of the major British authors and writings from Beowulf to the Romantic Revolt. The student will critically study such literary figures as Chaucer, Shakespeare, Milton and their contemporaries. In addition, through several research papers, the student is expected to demonstrate a comprehension of the contemporaneous ideas expressed by these men and the literary forms evolved by them. (3-0)

Eng 282 British Literature 3 Sem Hrs

Prerequisite: English 112. This course continues the student's survey of major British authors from the Romantic Revolt to the present time. Included will be such literary figures as Wordsworth, Coleridge, Byron, Shelley, Keats, Browning, and Eliot. Once again, through critical research papers, the student will be expected to relate these authors with their times and their literary forms. (3-0)

Eng 290-299 Special Problems in English

(See Page 49)

HEALTH, PHYSICAL EDUCATION AND RECREATION DIVISION

Division Chairman—Lynn V. Conway, Associate Professor

Associate Professor
Crawford E. Kennedy
Elanore M. Thompson

Assistant Professor
Barry D. Campbell
Charlotte A. Denman
Richard W. Prentice

Instructor
Patricia A. O'Toole
Paul D. Radlinski
James M. Still
Jean S. Treadway

ACTIVITY COURSES

PE 101 Physical Fitness 1 Sem Hr
Fitness through the use of calisthenics and self-testing exercises. Physical Fitness tests will be given and individual improvement records kept. (0-2)

PE 102 Physical Conditioning Through Sports 1 Sem Hr
Conditioning through the use of selected sport activities. (0-2)

PE 105 Special Skills 1 Sem Hr
Individual or small group assignments designed to meet the specific needs of students. Signature of the instructor is required. (0-2)

PE 111 Team Sports 1 Sem Hr
Coverage of two or more selected team sports in season selected from Physical Education 112 to Physical Education 118, inclusive. (0-2)

PE 112 Basketball 1 Sem Hr
Covers basic skills of passing, dribbling, shooting and team play. Rules and strategy also included. (0-2)

PE 113 Field Hockey 1 Sem Hr
Rules, fundamental skills and team play in field hockey. (0-2)

PE 114 Soccer 1 Sem Hr
Basic skills in kicking, dribbling, heading and positional play. Rules and strategy are included. (0-2)

PE 115 Softball 1 Sem Hr
Covers throwing, catching, batting and base running along with the rules of play. (0-2)

PE 118 Volleyball 1 Sem Hr
Basic skills of handling the ball, passing, setting, spiking, net-rebound play, and blocking. Rules and strategy are included. (0-2)

PE 122 Badminton 1 Sem Hr
Techniques and use of the various shots along with rules and strategy. (0-2)

PE 123 Fencing 1 Sem Hr
An introduction to foil fencing, its basic fundamentals, techniques, rules and safety measures. (0-2)

PE 125 Sports Judo 1 Sem Hr
Introduction to the rules, skills, and courtesies in sports judo as well as the special conditioning required. (0-2)

PE 126 Intermediate Sports Judo 1 Sem Hr
Prerequisite: PE 125 or permission of instructor. Continuing improvement of beginning techniques, additional throwing, groundwork, and combination throwing techniques taught. (0-2)

PE 127 Tennis 1 Sem Hr
An introduction to the basic strokes in tennis along with rules, strategy, and courtesies of the game. (0-2)

PE 128 Wrestling 1 Sem Hr
Covers special conditioning, take downs, elementary holds, breaks and plan as well as rules. (0-2)

PE 132 Archery 1 Sem Hr
Introduction to the basic skills in shooting, in target and field archery. (0-2)

PE 133 Bowling 1 Sem Hr
Fundamentals of starting stance, approach, and delivery. The use of both spot and pin bowling, courtesies, rules and method of scoring. Special student rates on alley fees. (0-2)

PE 134 Cross Country 1 Sem Hr
Techniques and conditioning for competitive distance running. Permission of instructor is required. (0-2)

PE 135 Golf 1 Sem Hr
Fundamentals in the use of woods, irons, and putter along with the rules and courtesies of the game. (0-2)

PE 136 Gymnastics 1 Sem Hr
Emphasis is placed on the fundamental skills of tumbling and apparatus work. (0-2)

PE 137 Skiing 1 Sem Hr
Emphasis placed on the fundamental skills. The student will be taught the snowplow, snowplow turn, traversing, stem turn, side slipping, and the stem Christie. (0-2)

PE 138 Track and Field 1 Sem Hr
Practice in various skills of running, hurling, jumping, vaulting, and weights. (0-2)

PE 139 Weight Training 1 Sem Hr
A systematic program of bodily development through repetitive weight training. (0-2)

PE 141 Folk and Square Dancing 1 Sem Hr
A course designed to introduce folk and square dancing of many countries. (0-2)

PE 142 Modern Dancing 1 Sem Hr
A course designed to teach the fundamentals of body movement and simple choreography. (0-2)

PE 143 Social Dancing 1 Sem Hr

This course involves basic dance steps of the Fox Trot, Waltz, Swing, Cha Cha, Rhumba, Samba, Tango. (0-2)

PE 151 Beginning Swimming 1 Sem Hr

A "learn to swim" course for beginners. Safety measures in swimming are stressed. (0-2)

PE 152 Intermediate Swimming 1 Sem Hr

Prerequisite: Physical Education 151 or consent of instructor. Skills in swimming the crawl, side stroke, elementary back and breast stroke. Safety measures and elementary forms of rescue. (0-2)

PE 153 Advanced Swimming 1 Sem Hr

Prerequisite: Physical Education 152 or consent of instructor. Improvement of strokes learned in Physical Education 152 along with the back stroke and elementary diving. (0-2)

PE 154 Senior Life Saving 1 Sem Hr

Prerequisite: Consent of instructor. Instruction in American Red Cross Senior Life Saving leading toward its certificate. (0-2)

PE 155 Water Safety Instructor 1 Sem Hr

Prerequisite: A current Senior Life Saving Certificate and the consent of the instructor. Instructions in the American Red Cross Water Safety Instructor Course leading toward its certificate. (0-2)

PE 156 Canoeing 1 Sem Hr

Prerequisite: Ability to swim. Instruction in basic American Red Cross Canoeing course. Involves one-day trips to nearby lakes and rivers. Usually six sessions of five hours each. Reduced student fees for canoe rentals. (0-2)

PE 242 Intermediate Modern Dance 1 Sem Hr

Prerequisite: PE 142 or permission of instructor. Activities designed to improve strength, flexibility, rhythmic and spatial awareness, coordination, and locomotor movements. Approximately one-half of the course is devoted to elements of choreography and student composition. (0-2)

PE 243 Intermediate Social Dance 1 Sem Hr

Prerequisite: PE 143 or permission of instructor. Covers intermediate level steps in the fox trot, waltz, swing, cha-cha, rhumba, samba, and tango, and introduces the mambo. (0-2)

THEORY COURSES

PE 161 Foundations of Physical Education 2 Sem Hrs

A study of the profession of physical education, its background, basic principles, relationships to growth and mental health, and vocational opportunities. (2-0)

PE 162 Intramurals 2 Sem Hrs

Prerequisite: PE 161 or permission of instructor. A study of the finances, facility utilization, organization and awards as they pertain to intramural programs. The philosophy of intramural programs is emphasized. (2-2)

PE 164 Athletic Training 2 Sem Hrs

Prerequisite: None. A course designed to provide the student with experiences and insight into the prevention, immediate treatment, and rehabilitation of injuries commonly sustained by participants in athletics. (2-1)

HE 165 First Aid and Safety 2 Sem Hrs

Study and practice in first aid treatment. Stress laid on prevention and safety measures. Student will pursue the standard and advanced first aid courses of the American Red Cross and will receive certificates upon successful completion of the course. (2-3)

PE 166 Physical Education in Elementary Schools 2 Sem Hrs

This course deals with the principles, methods and materials of teaching physical education in the elementary schools. (2-2)

RE 167 Recreation Leadership 3 Sem Hrs

A study of the techniques and methods and materials for leadership in directing various recreational program activities in the areas of low organized games, social events, simple arts and crafts, dramatics, dance calling and individual sports. (3-0)

HE 171 Personal Health 3 Sem Hrs

Prerequisite: None. Intended to develop a better understanding of the normal functioning of the human body and to encourage more effective attitudes toward the physical and mental well-being of the individual and the community. (3-0)

PE 180 Theory and Practice of Field Hockey 1 Sem Hr

The techniques, team play, and rules of field hockey. Women only. (1-1)

PE 181 Fundamental Teaching and Theory of Officiating Basketball and Softball 2 Sem Hrs

Prerequisite: PE 180. Orients students with problems of teaching these activities. Open to women students. Students learn officiating and obtain practical experience. (2-1)

PE 182 Theory and Practice of Basketball 1 Sem Hr

The techniques, team play, and rules of basketball. Women only. (1-1)

PE 184 Theory and Practice of Volleyball 1 Sem Hr

Analysis and practice of techniques, team plan and rules of volleyball. (Women only) (1-1)

PE 186 Theory and Practice of Beginning Gymnastics 1 Sem Hr

Techniques and procedures for teaching stunts, tumbling and apparatus activities for the elementary and secondary program. (Women only) (1-1)

HE 211 Basic Anatomy 3 Sem Hrs

Prerequisite: None. Open to second semester freshmen and sophomores. An introductory course in the structure and function of the human body with special emphasis on skeletal, nervous, circulatory and respiratory systems. Serves as a foundation course for health and physical. (3-0)

PE 214 Officiating of Women's Sports 1 Sem Hr

Prerequisite: 113W, 112W, and 118C. Rules and techniques of officiating field sports, basketball, and volleyball. (1-1)

PE 216 Theory and Practice of Folk and Square Dance 1 Sem Hr

Prerequisite: None. Analysis and practice of skills and techniques of representative folk and square dances. (1-1)

PE 218 Theory and Practice of Fundamental Movement 1 Sem Hr

Individual analysis of basic motor skills which are essential for efficient movement and physical fitness. (Women only) (1-1)

PE 220 Theory and Practice of Modern Dance 1 Sem Hr

Theory and practice of basic techniques and movement patterns for modern dance. (1-1)

HE, PE, RE 290-299 Special Problems in Health, Physical Education and Recreation

(See Page 49)

HUMANITIES DIVISION

Division Chairman—Gene R. Duckworth, Associate Professor

Associate Professor

Charles A. Breed
Loren E. Cady
Olive L. Lagden
Dr. Louis M. Sanker
Andrejs G. Straumanis

Assistant Professor

Patricia C. Eggleston
Don Jaeger
James A. Leffew
Russell L. Thayer

Instructor

Rosalind K. Berlin
Richard C. Esckilsen
Elizabeth C. Freeman
Sarah R. Gustin
Betty A. Holzschu
John W. McCormick
Richard A. McGaw
Murlene E. McKinnon
Robert M. Mee
Raymond Roberts

Television Staff

William Ballard, Director of Television and Station Manager
Ronald A. Black, Program Director
Thomas E. Haskell, Operations Manager
Katherin Aspray, Producer-Director
M. Andersen Rapp, Producer-Director
Guy Serumgard, Producer-Director
David E. Knope, Producer-Director

ART

Art 105 Introduction to Art 2 Sem Hrs

Prerequisite: None. (Not open to art majors.) A studio and lecture course for the student desiring some practical experience with drawing, painting, and the basic procedures employed in artistic creation, as an aid to self-expression or for cultural reasons. (0-4)

Art 111 Basic Freehand Drawing 3 Sem Hrs

Prerequisite: None. A beginning course in drawing designed for all students interested in the fundamentals of visual form and analysis of structure. Representational treatment of simple objects, forms and volumes in line, value and texture with a variety of media. (0-6)

Art 112 Advanced Drawing 3 Sem Hrs

Prerequisite: Art 111. A continuation of Art 111 emphasizing composition and a further understanding of the elements of drawing in relation to individual expression. Problems involve a variety of media. (0-6)

Art 113 Art Education 3 Sem Hrs

Prerequisite: None. Introduction to art for prospective teachers. Develops the ability to stimulate the creative interests of children in art. Acquaints the student with a variety of methods and materials adjusted to various grade levels. (0-6)

Art 114 Art Education 3 Sem Hrs

Prerequisite: Art 113. A continuation of Art 113. Additional investigation of the theories of art education and creative growth of children. (0-6)

Art 115 Basic Design—Two Dimensional 3 Sem Hrs

Prerequisite: None. Experimentation with the basic elements of design: line, form, space, value, texture and color. A variety of media is used in developing a visual vocabulary and understanding of art elements and composition. (0-6)

Art 116 Basic Design—Three Dimensional 3 Sem Hrs

Prerequisite: Art 115. A continuation of Art 115 with a series of problems designed to explore the elements of design in spatial compositions using a variety of basic materials. (0-6)

Art 117 Painting 3 Sem Hrs

Prerequisite: Art 111. Experimentation in oil, and other media. Exploring techniques, composition, and color, based on studies in still life, landscape and the figure. Recommended for students interested in art as a hobby, as well as for art majors. (0-6)

Art 121 Basic Ceramics 3 Sem Hrs

Prerequisite: Art 115. Introductory study of clay, glazes and their application, and techniques of construction. (0-6)

Art 151 Art History and Appreciation 3 Sem Hrs

Prerequisite: None. A survey of Western Art from prehistoric times through the 16th century. Deals with outstanding masterpieces and representative artists of the Egyptian, Greek, Roman, Romanesque, Gothic, and Renaissance periods. The emphasis is on the architecture and sculpture of those periods. (3-0)

Art 152 Art History and Appreciation 3 Sem Hrs

Prerequisite: None. A continuation of Art 151. A survey of the History of Western Art from the Renaissance through Baroque, Neo-classicism, Romanticism, Impressionism, Expressionism and the various modern schools. The emphasis is on the painting of those periods. (3-0)

Art 153 History of Architecture 2 Sem Hrs

Prerequisite: None. The historical development of architecture as a major art form. This development is viewed in relation to man's knowledge of building techniques and available materials as affected by geographic, economic, political and religious influences. (2-0)

Art 154 The Arts of Africa and the Negro 1 Sem Hr

Prerequisite: None. A study of the visual arts of Africa and the Negro. Topics are: (1) the visual arts as they developed in Africa, (2) the influence of African art on the arts of Europe and America, (3) the Negro in the arts of contemporary America and contemporary Africa. (1-0)

Art 210 Figure Drawing 3 Sem Hrs

Prerequisite: Art 111. A study of the essential aspects of life drawing such as gesture, mass, proportions, anatomy and structure. Essentially for the art major. (0-6)

Art 218 Advanced Painting 3 Sem Hrs

Prerequisite: Art 117. Still life, landscape, and non-objective problems in the various techniques of water color, tempera, and oil. Recommended for students interested in art as a hobby, as well as for art majors. (0-6)

Art 221 Introduction to Commercial Art 3 Sem Hrs

Prerequisite: Art 115. Instruction in lettering and rough layouts; introduction to typography layouts. Problems encountered in newspaper, magazine, direct mail, and other advertising forms. Laboratory, lecture, and field trips. (0-6)

Art 222 Sculpture 3 Sem Hrs

Prerequisite: Art 115. Laboratory experiences in sculpture and sculptural forms with particular attention given to techniques of forming and building plus the experience of casting in such media as plaster and cement. (0-6)

Art 280 Printmaking 3 Sem Hrs

Prerequisite: Art 111 and Art 115. A study of the art of printmaking and its major techniques; with studio practice in a variety of printing methods. The techniques taught are basically commercial art techniques with commercial potential as well as being useful to major artists. (0-6)

Art 290-299 Special Problems in Art

(See Page 49)

LANGUAGES

FRENCH

FR 111 Elementary French 4 Sem Hrs

Prerequisite: None. A beginning course presenting the basic structure of the French language with oral-aural drills for correct pronunciation and for understanding and using spoken French, dictation, reading and writing simple French, acquisition of a basic vocabulary. All students are required to do supplemental work in the language laboratory. (4-0)

FR 112 Elementary French 4 Sem Hrs

Prerequisite: French 111 or one year of high school French. A continuation of French 111 with further development of oral-aural skills. Grammatical structure with practice in writing French, and reading of easy French for comprehension of the written language and increasing vocabulary required language laboratory assignments. (4-0)

FR 211 Intermediate French 4 Sem Hrs

Prerequisite: French 112 or two years of high school French. Review and application of principles of French grammar by means of oral and written exercises and composition, pronunciation through aural and oral exercises and conversation, reading of French prose and outside reading to develop rapid reading ability at sight are stressed. Classes conducted as far as possible in French. (4-0)

FR 212 Intermediate French 4 Sem Hrs

Prerequisite: French 211 or three years of high school French. A continuation of French 211, with somewhat more emphasis on oral skill and conversation. (4-0)

FR 290-299 Special Problems in French

(See Page 49)

GERMAN

Ger 111 Elementary German 4 Sem Hrs

Prerequisite: None. Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written German by means of aural-oral practice, reading of simple texts, and written exercises. Language laboratory assignments required. (4-0)

Ger 112 Elementary German 4 Sem Hrs

Prerequisite: German 111 or one year of high school German. A continuation of German 111. (4-0)

Ger 211 Intermediate German 4 Sem Hrs

Prerequisite: German 112 or two years of high school German. Continued emphasis is placed on proper pronunciation habits and on application of basic grammatical structures of modern spoken and written German by means of aural-oral exercises, conversations, reading of German prose, and written exercises. As far as possible, this class is conducted in German. Language laboratory assignments required. (4-0)

Ger 212 Intermediate German 4 Sem Hrs

Prerequisite: German 211 or equivalent. A continuation of German 211 with emphasis on conversation and composition. Special attention given to those interested in technical German. (4-0)

GER 290-299 Special Problems in German

(See Page 49)

RUSSIAN

Russ 111 Elementary Russian 4 Sem Hrs

Prerequisite: None. Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written Russian by means of aural-oral practice, reading of simple texts, and written exercises. Language laboratory assignments. (4-0)

Russ 112 Elementary Russian 4 Sem Hrs

Prerequisite: Russian 111 or one year of high school Russian. Continuation of Russian 111. (4-0)

Russ 211 Intermediate Russian 4 Sem Hrs

Prerequisite: Russian 112 or two years of high school Russian. Continued emphasis placed on proper pronunciation habits and on application of grammatical structures of modern spoken and written Russian by means of aural-oral exercises, conversations, reading of Russian prose, and written exercises. As far as possible this class is conducted in Russian. Language laboratory assignments. (4-0)

Russ 212 Intermediate Russian 4 Sem Hrs

Prerequisite: Russian 211 or its equivalent. Continuation of Russian 211 with more emphasis on conversation and composition. (4-0)

Russ 290-299 Special Problems in Russian

(See Page 49)

SPANISH

Spa 111 Elementary Spanish 4 Sem Hrs

Prerequisite: None. Emphasis on conversational Spanish. Daily oral-aural practice with required language laboratory assignments. Grammatical constructions accompanied by drill exercises and easy composition. Simple readings concerning Latin American Countries. (4-0)

Spa 112 Elementary Spanish 4 Sem Hrs

Prerequisite: Spanish 111 or one year of high school Spanish. Continuation of Spanish 111. (4-0)

Spa 211 Intermediate Spanish 4 Sem Hrs

Prerequisite: Spanish 112 or two years of high school Spanish, Review and application of principles of grammar by means of oral and written reviews, practice in conversation, outside reading to develop ability to read rapidly at sight, and translation from English into Spanish. As far as possible this class is conducted in Spanish. (4-0)

Spa 212 Intermediate Spanish 4 Sem Hrs

Prerequisite: Spanish 211 or three years of high school Spanish. A continuation of Spanish 211 with further detailed review and application of the principles of grammar, reading of Spanish short stories, and practice in advanced conversation and composition. As far as possible this class is conducted in Spanish. (4-0)

Spa 290-299 Special Problems in Spanish

(See Page 49)

LIBRARY SCIENCE

Lib Sci 281 Classification and Cataloging 3 Sem Hrs

Principles and practices of library classification and cataloging, with emphasis on Dewey Decimal Classification system. Lectures combined with laboratory practice. (3-0)

Lib Sci 282 Reference Books 3 Sem Hrs

Study of basic books most frequently used by reference librarians. Use of encyclopedias, dictionaries, atlases, and indexes is stressed. Lectures combined with laboratory practice. (3-0)

MUSIC

Mus 101 Theory-Basic Musicianship 5 Sem Hrs

Prerequisite: None. However, basic musical knowledge recommended, i.e., keys, notation, rhythm, and clefs. Comprehensive course for potential music majors. Emphasis on aural theory, written theory, and keyboard harmony. (3-4)

Mus 102 Theory-Basic Musicianship 5 Sem Hrs

Prerequisite: Music 101. Continuation of written theory with drill in harmonic and melodic dictation. Sight-singing and keyboard harmony through harmonic dictation of four-part Bach Chorale and other appropriate styles. (3-4)

Mus 105 String Ensemble 1 Sem Hr

Prerequisite: Experience in high school orchestra or equivalent. May be elected for four semesters. (0-2)

Mus 111 Music Literature 3 Sem Hrs

Prerequisite: None. Acquaints the student with fundamentals of listening. Symphonic music is emphasized. (3-0)

Mus 112 Music Literature 3 Sem Hrs

Prerequisite: Music 111. Continued study of instrumental music (concerta small ensemble.) Promotes an understanding of and appreciation for vocal forms (opera, art, song, large choral work, i.e., oratorios, masses.) (3-0)

Mus 115 Wind Ensemble 1 Sem Hr

Prerequisite: Band experience in high school or the equivalent. May be elected for four semesters. (0-2)

Mus 121 Elements of Music 3 Sem Hrs

Prerequisite: None. Rudiments of music, including notation, clefs, keys, syllables, and rhythm. Teaching of songs. Elementary conducting technique. Planned to meet the basic musical needs of those who expect to teach in the elementary grades. (3-0)

Mus 141 Choir 1 Sem Hr

Prerequisite: None. However, high school and/or church choir experience is recommended. Directed toward the study of representative choral music and public performances in college and community activities. May be elected for four semesters. (0-3)

Mus 201 Theory (Basic Musicianship) 3 Sem Hrs

Prerequisite: Music 102 or permission of the instructor. A continuation of part writing, keyboard harmony, aural theory (melodic and harmonic dictation), and sightsinging. Begins with material including secondary seventh chords and continues through chromatic harmony. Analysis of styles will be emphasized. Sophomore level theory for music majors and minors. (2-2)

Mus 202 Theory (Basic Musicianship) 3 Sem Hrs

Prerequisite: Music 201. A continuation of Music 201 emphasizing the analysis of styles and musical forms. Four part harmonic dictation and appropriate keyboard harmony study. (2-2)

Mus 211 Music History 3 Sem Hrs

Prerequisite: Music 111 or permission of instructor. An in-depth study of music of ancient times to the Seventeenth Century. Required for music majors. (3-0)

Mus 212 Music History 3 Sem Hrs

Prerequisite: Music 111 or Music 211 or permission of instructor. A continuation of Music 211 with a study of music from the Seventeenth Century to the present with emphasis on form and style. Required for music majors. (3-0)

Mus 290-299 Special Problems in Music

(See Page 49)

PHILOSOPHY

Phil 211 Introduction to Philosophy 3 Sem Hrs

Prerequisite: Sophomore standing. Designed to acquaint the student with some of the fundamental questions that have confronted mankind and the way in which these questions have been dealt with by the most profound thinkers of the past and present. (3.0)

Phil 212 Readings in Elementary Philosophy 3 Sem Hrs

Prerequisite: Sophomore standing. Aims at direct reading of the earlier philosophers, especially Plato, Aristotle, Descartes. The historical approach to supplement the other method of theories-approach in philosophy. (3-0)

Phil 213 Introduction to Ethics 3 Sem Hrs

Prerequisite: Sophomore standing. Designed to enquire into the principles of moral philosophy and to study the many different theories of ethics included in the writings of the leading moral philosophers. (3-0)

Phil 214 Philosophy of Religion 3 Sem Hrs

Prerequisite: None. An inquiry into the meaning and relevance of evolving religious beliefs and symbols and an examination of methodological issues relating to problems of God, man and the universe. (3-0)

Phil 221 Logic 4 Sem Hrs

Prerequisite: Sophomore standing or second semester Freshman with minimum C+ average. Development of effective thinking through the study of classical logic. Methods of clear argumentation, definition, assessment of evidence, and a brief introduction to inductive logic and the scientific method. (4-0)

Phil 290-299 Special Problems in Philosophy

(See Page 49)

RADIO-TELEVISION

RTV 113 Radio and Television Workshop 1 Sem Hr

Prerequisite: None. Introduction to television and radio production equipment, and its operation. Students are given the opportunity to participate in actual studio production work. (0-3)

RTV 114 Radio and Television Workshop 1 Sem Hr

Prerequisite: RTV 113, or consent of instructor. Continuation of RTV 113, with increased emphasis on proficiency and understanding of studio camera operation, and audio control equipment. (0-3)

RTV 115 Radio and Television Workshop 1 Sem Hr

Prerequisite: RTV 114, or consent of instructor. Continuation of RTV 114, with increased emphasis on lighting and staging technique. (0-3)

RTV 116 Radio and Television Workshop 1 Sem Hr

Prerequisite: RTV 115, or consent of instructor. Continuation of RTV 115, with increased emphasis on coordination of the various elements of production, including audio control, writing, studio lighting and staging, visual control, selection and integration. (0-3)

RTV 151 Fundamentals of Broadcasting 3 Sem Hrs

Prerequisite: None. Study of the origin, development, nature and function of radio and television stations, and networks. The economy, laws and regulations of the broadcasting industry are discussed. The self regulation of the industry and the social controls on it in modern society are evaluated. (3-0)

RTV 152 Radio and Television Speaking 3 Sem Hrs

Prerequisite: None. Analysis and practice in applying the principles of radio and television speaking. Preparation and presentation of narration, speeches, interviews, discussions and continuity are emphasized. Elementary consideration is given to the uses of studio and control room equipment. (3-0)

RTV 153 Radio and Television Announcing 3 Sem Hrs

Prerequisite: None. Training in specialized fields of announcing, including the procuring, writing and rewriting of news, sportscasting, commercials, ad lib speaking, children's programs, and special events. More attention will be given to the use of studio and control room equipment. (3-0)

RTV 154 TV Studio Operations 3 Sem Hrs

Prerequisite: None. This course is divided into three basic study units: types of equipment, operation of equipment, and responsibilities of TV studio personnel. Theory and practice of closed-circuit systems and station operation is included. (2-2)

RTV 155 Studio Operations 3 Sem Hrs

Prerequisite: Radio-Television 154, or consent of instructor. A continuation of Radio-Television 154, with emphasis on the proficiency of studio equipment operation. Control room operation and procedures are integrated with class production and station operation. (2-2)

RTV 222 Broadcast News 3 Sem Hrs

A course in broadcast journalism designed to introduce broadcasting students to techniques of electronic news media. Public information in authoritarian and libertarian societies is analyzed. Guest speakers, associated with broadcast news in Michigan, will be featured. Included in the course is a filmed news story, produced by students, emphasizing the essentials of script preparation, editing, and content accuracy. (3-0)

RTV 227 Broadcast Sales 3 Sem Hrs

Prerequisite: None. Brings the marketing concept into broadcast sales. Information on the psychological, sociological, economic, and communicative aspects of salesmanship are applied to the broadcast industry. Actual sales presentations will be prepared for "clients". Frequent guests in the broadcast sales field will be invited to share their experience with the class. (3-0)

RTV 251 TV Production and Direction 3 Sem Hrs

Prerequisite: Radio-Television 154 or Radio-Television 155, or consent of instructor. TV production and direction through demonstration, discussion, and assigned experiences. The problems of casting, rehearsing, pacing, and over-all program producing and directing are considered. (2-2)

RTV 290-299 Special Problems in Radio-Television

(See Page 49)

SPEECH

Sp 101 · Fundamentals of Speech for Engineering Students 3 Sem Hrs

Prerequisite: None. For students in engineering and scientific fields. Practice in speaking and outlining stressed. Methods of illustrating technical, expository speeches, with blueprints, charts, graphs, and demonstrations of scientific apparatus. Extemporaneous, manuscript, and report speech are required. (3-0)

Sp 102 Business and Professional Speech 2 Sem Hrs

Prerequisite: None. Speech techniques which an individual may apply in daily situations are stressed. Emphasis on speaking situations most frequently met by business and professional people, including business interviews, conferences, discussions, and the planning and conducting of meetings. (2-0)

SP 111 Speech and Voice Improvement 3 Sem Hrs

Prerequisite: None. Designed to create awareness of what constitutes an effective voice, one which shows how voice is produced and controlled in order that common faults are overcome or avoided, and one which suggests how voice can be improved as an instrument of communication. (3-0)

Sp 112 Principles of Public Speaking 3 Sem Hrs

Prerequisite: None. Practical problems of public address for the beginning student. Speaking assignments include impromptu, extemporaneous, manuscript, and memorized methods of delivery. Outlining and organization of content stressed. (3-0)

Sp 201 Speech for the Classroom Teacher 3 Sem Hrs

Prerequisite: None. For education majors, it aims for an understanding of speech in the educational process, self-improvement of the teacher through classroom speech activities, and application of these principles to teacher-pupil relationships. Its comprehensive goal is to aid the teacher in his professional and personal relationships with his students, his colleagues, and his community. (3-0)

Sp 211 Advanced Public Speaking 3 Sem Hrs

Prerequisite: Speech 111 or 112. A survey of several forms of public address. Includes the theory of speech; frequent platform experiences. Attention given to radio and television speaking procedure. All speaking assignments outlined and personal and social communication stressed. (3-0)

Sp 213 The Oral Interpretation of Literature 3 Sem Hrs

Prerequisite: Speech 112 or permission of instructor. Understanding and appreciation of literature through awareness of the oral basis of language. Analysis and communication of written text as thought, feeling, sound, and action. (3-0)

Sp 214 Discussion Techniques 3 Sem Hrs

Prerequisite: A previous speech course or permission of the instructor. Designed to explain discussion as a means to better understanding and action in human affairs and to develop attitudes and skills which enable people to participate in discussion competently. A study of group leadership. (3-0)

Sp 215 Introduction to Theatre 3 Sem Hrs

Prerequisite: None. Designed to give the student some insight into the various aspects of theatrical production. The purpose is to make the student a discriminating observer of dramatic production whether on stage, film or the T.V. screen. Included in this study are play analysis and practical experience in acting, directing, scenery, and lighting. (3-0)

Sp 216 Theatre History 3 Sem Hrs

This class is devoted to introducing the student to the various historical eras of the theatre, from the Ancient Greeks to the present. Emphasis is placed on the development of the physical theatre, representative playwrights, and the development of actor and the director. (3-0)

Sp 290-299 Special Problems in Speech

(See Page 49)

MATHEMATICS DIVISION

Division Chairman—Newell H. Remington, Associate Professor

Associate Professor	Assistant Professor	Instructor
John H. Brinn	Jack L. Crowell	Robert F. Keicher
Robert H. DeVinney	Donald A. McPhee	Anne E. Martin
John S. Kostoff	James S. Soddy	Jerry A. Schuitman
Donald L. Laughner	Donna J. Weyer	James A. Verhanovitz
Joseph L. Mazanec		

It is recommended that a grade C or better be earned in any mathematics course used as a prerequisite for another mathematics course.

Math 91 Arithmetic 2 Sem Hrs

Prerequisite: None. Provides a foundation in arithmetic. The four fundamental operations on whole numbers, common and decimal fractions and percentages, to formulas, ratio and proportion, and an introduction to algebra. (2-0)

Math 92 Algebra I 3 Sem Hrs

Prerequisite: Mathematics 91 or equivalent. Natural numbers, integers, first degree equations and inequalities, special products, factoring and fractional equations, graphs and linear systems, radicals and quadratic equations. (3-0)

Math 93 Plane Geometry 3 Sem Hrs

Prerequisite: Mathematics 92 or equivalent. Calculations with approximate data, metric system, angles, parallel lines, congruency of figures, circle; ratio, proportion and similar polygon formulas applying to plane and solid figures, locus and construction. (3-0)

Math 101 Technical Mathematics I 5 Sem Hrs

Prerequisite: Mathematics 92 or equivalent; Mathematics 93 advisable. Review of elementary algebra, slide rule, calculations with approximate data, linear and quadratic equations, graphical representation, exponents and radicals, variation and proportion, logarithms. (5-0)

Math 102 Technical Mathematics II 5 Sem Hrs

Prerequisite: Technical Mathematics 101. Definitions and properties of trigonometric functions, solutions of triangles, vectors, slide rule, identities, equations, complex numbers, binomial theorem, progressions, and exponential functions. (5-0)

Math 103 Technical Mathematics III 5 Sem Hrs

Prerequisite: Technical Mathematics 102. Analytic geometry, differential calculus, and integral calculus with stress on applications. (5-0)

Math 108 Elementary Statistics 3 Sem Hrs

Prerequisite: Mathematics 119 or its equivalent. Elementary statistical concepts studied include frequency distributions, measures of central tendency and dispersion, sampling, estimation, testing hypothesis, linear correlation, and regression. (3-0)

Math 110 Mathematics for Elementary Teachers 3 Sem Hrs

Prerequisite: Mathematics 92 if mathematics placement test score is unsatisfactory. Numeration systems, sets and numbers, basic concepts and structure of arithmetic. (3-1)

Math 116 Slide Rule 1 Sem Hr

Prerequisite: Mathematics 121 or its equivalent. (May be taken concurrently.) For engineering students or those majoring in science or mathematics. Consult instructor before purchasing slide rule. (1-0)

Math 119 Intermediate Algebra 3 Sem Hrs

Prerequisite: Mathematics 92 or equivalent. Fundamental concepts of algebra, graphs, exponents, radicals, variation, proportion, and logarithms. (3-0)

Math 121 Plane Trigonometry 3 Sem Hrs

Prerequisite: Mathematics 93 and Mathematics 119, or equivalents. (Mathematics 119 may be taken concurrently.) Definitions and properties of trigonometric functions, solution of triangles, logarithms, identities, equations, inverse functions, complex numbers and applications. (3-0)

Math 122 College Algebra 3 Sem Hrs

Prerequisite: Mathematics 93 and Mathematics 119 or equivalents. Review of exponents, radicals, quadratic equations, variation, proportion study of systems of equations, determinants, theory of equations, inequalities, progressions, binominal theorem and probability, mathematical induction. (3-0)

Math 131 Introductory College Mathematics 5 Sem Hrs

Prerequisite: Three and one half years of college preparatory mathematics. Functions and graphs, trigonometric functions, fundamental identities, reductions, angular measure, simultaneous linear and quadratic equations, functions of a composite angle, complex numbers, inequalities, mathematical induction, binomial theorem, inverse functions, and determinants. (5-0)

Math 147 Introduction to Digital Computing 2 Sem Hrs

Prerequisite: Mathematics 122 or equivalent. Programming digital computers, fundamental concepts and techniques of computation with a computer, using the FORTRAN language. Students will have opportunity to run problems on the IBM 1620, and the IBM 360-40. (2-0)

Math 161 Analytic Geometry and Calculus I 4 Sem Hrs

Prerequisite: Four years of college preparatory mathematics and a high score on the mathematics placement test, or Mathematics 131, or both Mathematics 121 and 122. Inequalities, relations, function, graphs, the line, limits, continuity, differentiation of algebraic functions, applications of differentiation, the definite integral, and circles. (4-0)

Math 162 Analytic Geometry and Calculus II 4 Sem Hrs

Prerequisite: Mathematics 161. The conics, differentiation of trigonometric and exponential functions, parametric equations, polar coordinates, vectors in a plane, methods of integration, and applications of integration. (4-0)

Math 261 Analytic Geometry and Calculus III 4 Sem Hrs

Prerequisite: Mathematics 162. Solid analytic geometry, vectors in three dimensions, elements of infinite series, partial differentiation, and multiple integration. (4-0)

Math 263 Introduction to Linear Algebra 3 Sem Hrs

Prerequisite: Mathematics 162, with Mathematics 261 desirable. Matrices, determinants, linear systems, vector spaces, linear transformations. (3-0)

Math 264 Introduction to Ordinary Differential Equations 2 Sem Hrs

Prerequisite: Mathematics 261 and 263 or Mathematics 263 concurrently. Some special types of differential equations and their applications, linear differential equations, systems of linear differential equations, solutions by means of power series. (2-0)

Math 290-299 Special Problems in Mathematics

(See Page 49)

NURSING DIVISION

Division Chairman—Therese A. Seaman, Assistant Professor

Associate Professor
Crystal M. Lange

Assistant Professor
Caroline M. Mertz
Velma J. Phillips
Marjorie A. Tait
Joyce E. Whittaker
Bonifacia M. Wojcik

Instructor
Jessie R. Dolson
Gayle D. Hanna
Joan E. Leach
Mary Ann D. Slaggert

Nurs 111 Fundamentals of Nursing 8 Sem Hrs
Prerequisite: None. Introduces the student to principles of care of patients. It is designed to develop the beginning technical observational and communicative skills necessary to meet the basic needs of the individual. (4-12)

Nurs 112 Maternal and Child Nursing 8 Sem Hrs
Prerequisite: Nursing 211. Provides an opportunity to study and participate in the nursing care of the mother throughout the maternity cycle and the child from birth through adolescence. (4-12)

Nurs 211 Nursing in Physical and Mental Illness 8 Sem Hrs
Prerequisite: Nursing 111. The multi-faceted aspects of illness, as they affect nursing care of all age groups, are studied along with principles of rehabilitation, nutrition, pharmacology, psychology and sociology. The student is expected to use prior learning experiences as foundation to the achievement of more complex skills. (4-12)

Nurs 212 Nursing in Physical and Mental Illness 8 Sem Hrs
Prerequisite: Nursing 211. Continuation of Nursing 211. (4-12)

Nurs 213 Trends in Nursing 2 Sem Hrs
Prerequisite: Nursing 211. Provides the opportunity for students to raise professional problems, consider ways of solution, and to understand the modifications which are necessary as indicated by society. An attempt is made to facilitate the transition from the nursing student to graduate nurse. (2-0)

Nurs 290-299 Special Problems in Nursing
(See Page 49)

ALLIED HEALTH

Chal S. Bauer, Coordinator of Radiologic Technology

Instructor
John M. Flattery
Phyllis A. Jernstadt

DENTAL ASSISTING

DA 101 Introduction to Dental Assisting 4 Sem Hrs
An introduction to the dental profession and the dental assistant's role as a member of the dental health team. Beginning study of dental nomenclature and office procedures. Nutrition as applied to dental health and oral hygiene. (4-0)

DA 102 Dental Anatomy and Physiology 2 Sem Hrs
The study of head and oral anatomy: the physiology and occlusion of the dentition. In the laboratory students will use dentoforms, models, charts and carvings. (1-3)

DA 103 Dental Materials and Laboratory Procedures 4 Sem Hrs
The study of gypsum products, impression materials, and restorative materials; their physical properties, preparation and manipulation. The construction of base plates, bite rims, custom impression trays and cast metal restorations. (3-3)

DA 104 Dental Instruments and Equipment 2 Sem Hrs
Introduction to dental instruments, equipment: identification, care, use and maintenance. (1-3)

DA 105 Pathology and Pharmacology (Including Anesthesia) 3 Sem Hrs
The pathology of soft and hard tissues of the oral cavity will be examined. Special emphasis on periodontal disease and dental caries. A study of drugs, their sources, methods of administration and precaution in administration. (3-0)

DA 201 Dental Roentgenology 3 Sem Hrs
The study of the principles and properties of x-rays, equipment and materials used in dental roentgenology. (2-3)

DA 202 Operative Procedures 4 Sem Hrs
Chairside assisting in the general and specialty practices. Pre-operative procedures, care of patient, operative procedures, and post-operative care. (3-3)

DA 203 Dental Records and Practice Administration 2 Sem Hrs
A course in office management with emphasis on patient and office records, communications, supplies and appointment control. (2-0)

DA 210 Internship 7 Sem Hrs
Students will be assigned to work in a dental office, making practical application of all previous course work. (0-21)

DA 290-299 Special Problems in Dental Assisting
(See Page 49)

HEALTH SCIENCE

Health Sci 111 Medical Terminology 2 Sem Hrs
Prerequisite: None. Designed to develop a basic understanding of the spelling, meaning and pronunciation of commonly used prefixes, suffixes, and root words, and their combining forms, used in all fields of allied health. (2-0)

Health Sci 290-299 Special Problems in Health Science
(See Page 49)

RADIOLOGIC TECHNOLOGY CURRICULUM

Rad Tech 101 Radiographic Anatomy 3 Sem Hrs

Prerequisite: One year high school biology and chemistry, or permission of the instructor. The study of structure and function of bones; bony prominences and depressions; classification and development of bones and their application to radiography. The digestive, respiratory, circulatory and other body systems. (3-0)

Rad Tech 102 Radiographic Physics 3 Sem Hrs

Prerequisite: One year high school biology and chemistry, or permission of the instructor. Designed to familiarize the student with basic physical principles. Deals with mechanics, heat, sound, magnetism, electricity, and light. Emphasis placed on applicability of radiology. (3-0)

Rad Tech 111 Introduction to Radiologic Technology 3 Sem Hrs

Prerequisite: None. Two hours of lecture per week on campus. The theory, history, properties of x-ray, radiographic procedures and positioning as background for further training in radiologic technology. Three hours per week devoted to practice of the theory. This practice will be in the college laboratory. (2-3)

Rad Tech 112 Radiologic Technology I 4 Sem Hrs

Prerequisite: Radiologic Technology 111. Three hours of lecture per week on campus. A continuation of the properties of x-ray, radiographic procedures and positioning. Nursing procedures and sterile techniques used in radiographic practice. Three hours per week devoted to practice of the theory. This practice will be in the college laboratory. (3-3)

Rad Tech 113 Radiologic Technology II 8 Sem Hrs

Prerequisite: Radiologic Technology 112. Three hours of lecture per week on campus. Nomenclature of positioning, techniques for special views, articulations, fractures of various bones, skull and facial bones and pediatric radiography. Techniques for various glands, foreign bodies and soft tissue calcification examination. Fifteen hours per week devoted to practice of the theory. This practice will be in the hospital x-ray department. (3-15)

Rad Tech 211 Advanced Radiologic Technology I 11 Sem Hrs

Prerequisite: Radiologic Technology 113. Three hours of lecture per week on campus and two hours per week at the hospital. Lectures will include special radiographic procedures, the use of various contrast media, advanced study in radiation protection plus film critiques and general review of specific areas of study. Eighteen hours per week devoted to practice of the theory. This practice will be in the hospital x-ray department. (5-18)

Rad Tech 212 Advanced Radiologic Technology II 11 Sem Hrs

Prerequisite: Radiologic Technology 211. Three hours of lecture per week on campus and two hours per week at the hospital. Subject material during this semester will include dental radiography, equipment maintenance, departmental administration and civil defense monitoring. Film critiques and general review will be held in the hospital. Eighteen hours per week will be devoted to the practice of theory in the hospital x-ray department. (5-18)

Rad Tech 213 Advanced Radiologic Technology III 15 Sem Hrs

Prerequisite: Radiologic Technology 212. A continuation of Radiologic Technology 212; five hours of lecture per week at the hospital which will include nuclear medicine procedures, radiation therapy and a review of medical and surgical diseases and their relationship to radiography. Overview of previous courses and film critiques will be given weekly. Thirty-five hours of practice of theory will be given in the hospital x-ray department. (5-35)

Rad Tech 311 Radiologic Technology Internship 12 Sem Hrs

Prerequisite: Radiologic Technology 213. This is a graduation requirement; thirty-eight hours per week of practical application of radiologic technology. This experience will be under the supervision of the radiologist and the chief radiologic technologist, and will be gained in the affiliating hospital departments of radiology. Two hours per week of lecture at the hospital will be devoted to film critiques and general review. (2-38)

Rad Tech 312 Radiologic Technology Internship 12 Sem Hrs

Prerequisite: Radiologic Technology 311. A continuation of the graduation requirement; thirty-eight hours per week of practical application of radiologic technology. This experience will be under the supervision of the radiologist and the chief technologist, and will be gained in the affiliating hospital departments of radiology. Two hours per week of lecture at the hospital will be devoted to film critiques and general review. (2-38)

Rad Tech 290-299 Special Problems in Radiologic Technology

(See Page 49)

SCIENCE DIVISION

Division Chairman—Dr. Richard H. Northrup, Associate Professor

Professor

Samuel Freed—Emeritus

Associate Professor

Lorne P. Adams
Carl L. Altenhof
Bruce C. Corliss
Lois A. Downer
Dr. Wilbur L. Dungy
Eldon D. Enger
Andrew H. Gibson
Dr. Edward J. Stry
Marion L. Woodford

Assistant Professor

Clayton H. Borgman
Carl F. Cisky
Robert J. Hilbert
Richard Kormelink
Dr. Clark F. Most, Jr.
Rodney J. Smith
Westbrook A. Walker
Marion H. Whittaker

Instructor

Barry A. Carlson
Paul A. Catacosinos
G. Nelson Greene
J. Sumitra Heinert
Frederick C. Ross
Arthur G. Smith
David R. Williams

AGRICULTURE

Soil Sc 210 Fundamentals of Soil Science 4 Sem Hrs

Prerequisite: Chemistry 102, 122 or 112. Principles of the origin and development of soils. Relationship of properties to utilization and soil fertility to plant composition and animal health. Emphasis is placed on changing soils to serve man. When offered in the fall, the orientation is toward earth and animal sciences; in the spring, the orientation is toward soil and plant sciences. (4-0)

Crop Sc 250 Plant and Animal Genetics 4 Sem Hrs

Prerequisite: Biology 151 or Biology 161. Fundamental genetic principles with particular reference to problems in plant and animal biology. (3-2)

Animal Sc 325 Applied Animal Nutrition 4 Sem Hrs

Prerequisite: Chemistry 112 or 122 and Chemistry 211. Livestock feeds and their nutrients. Functions of and requirements for nutrients. Evaluation of feeds. Feeding practices. Formulation of rations of beef and dairy cattle, horses, poultry, sheep and swine (3-2)

Agr 290-299 Special Problems in Agriculture

(See Page 49)

AVIATION

Aviation 101 Private Pilot Ground Training 4 Sem Hrs

Prerequisite: None. Designed to provide the student with basic principles of flight that are of concern to the private pilot. Special emphasis will be placed on preparing one to pass the F.A.A. Private Pilot written examination. Emphasis is given to: Pre-flight facts, Federal Aviation Agency regulations, Meteorology, Flight Computer, Navigation and Radio Navigation. (4-0)

Aviation 110 Commercial Pilot Ground Training 4 Sem Hrs

Prerequisite: Knowledge of Private Ground School recommended. Designed to prepare students for the Federal Aviation Administration Commercial Pilot written examination leading to licensure of a commerical pilot by the Federal Aviation Administration. Covers applicable flight information publications, meteorology and weather, navigation, aerodynamics and principles of flight, aircraft instruments. (4-0)

Aviation 201 Instrument Ground School 4 Sem Hrs

Prerequisite: Private Pilot License or Commercial Pilot License. Designed to prepare students for the Federal Aviation Administration Instrument Pilot Ground School written examination leading to licensure of a pilot by the Federal Aviation Administration. (4-0)

Aviation 202 Weather 3 Sem Hrs

Prerequisite: Knowledge of Aviation 101, 110, and 201 recommended. Provides depth in understanding weather. Examines how and why of weather forms, the problems it presents, and solutions to those problems; interprets weather maps and sequence reports. (3-0)

Avia 290-299 Special Problems in Aviation

(See Page 49)

BASIC SCIENCE

Bas Sci 101 Integrated Basic Science 5 Sem Hrs

Prerequisite: One year high school biology and chemistry or permission of the instructor. A study of the fundamental principles of physics, chemistry, microbiology, and pathology as they apply to the functioning of the human body. (4-3)

Bas Sci 102 Integrated Basic Science 5 Sem Hrs

Prerequisite: Basic Science 101. Continuation of Basic Science 101. A study of the fundamentals of human anatomy and physiology. (4-3)

Bas Sci 290-299 Special Problems in Basic Science

(See Page 49)

BIOLOGY

Biol 105 Anatomy and Physiology for Medical Assistant 2 Sem Hrs

Prerequisite: None. Designed to provide a basic knowledge of surface anatomy, the body system and physiology. Medical terminology is stressed with emphasis on the spelling and meaning of commonly used prefixes, suffixes, root words and their combining forms. (2-0)

Biol 111 Principles of Biology 4 Sem Hrs

Prerequisite: None. An introduction to the fundamental concepts underlying biology. Major topics considered will be: evolutionary survey of plant and animal kingdoms, cellular structure and metabolism, and the biology of populations. The role of biology in our present world will be the unifying theme for the course. Required of all biology majors and applicable as science credit for non-majors. (3-3)

Biol 112 General Biology 4 Sem Hrs

Prerequisite: Biology 111. A course which deals with the application of the concepts of biology to humans, specifically as the concepts relate to human structure, function, and heredity. (3-3)

Biol 115 Environmental Science 2 Sem Hrs

Prerequisite: None. A course designed to develop an understanding and appreciation of the interacting forces that comprise our environment. Emphasis will center on the modern ecological problems involved in man's relationship to the geographic area under study as it has been affected by the history, economics, and ecological conditions he has created. Using the Saginaw Valley, students will examine various aspects of the exploitation, conservation, and control of the Valley's environment. One required field trip. (2-0)

Biol 151 Botany 4 Sem Hrs

Prerequisite: Biology 111. Chemistry recommended. A study of the basic physiological processes and the structure necessary to carry on these processes. Survey of the plant kingdom with emphasis upon their evolutionary relationships and their life cycles. The environmental importance of plants is also discussed. (2-6)

Biol 161 Zoology 4 Sem Hrs

Prerequisite: Biology 111, Chemistry recommended. A course which deals with classification, evolutionary relationships and a comparison of structure and of function of the major groups of animals. (2-6)

Biol 241 Physiology 4 Sem Hrs

Prerequisite: Biology 161 or a year of college biology or permission of instructor. A study of the function of the major organ systems of animals with special emphasis on the human body. The laboratory will stress the experimental approach to gathering and analyzing physiological data. (3-3)

Biol 261 Comparative Vertebrate Anatomy 4 Sem Hrs

Prerequisite: Biology 161. Evolution of the higher taxonomic groups of chordates and a comparative study of their gross morphology. Emphasis on dissection of various vertebrates. (2-6)

Biol 271 Genetics 4 Sem Hrs

Prerequisite: Biology 112, or Biology 151 or Biology 161. A study of classical and molecular genetics. Hereditary material will be considered with regard to its proliferation, its control of protein synthesis, and with regard to the effect of accumulated genetic changes upon evolution. (3-3)

Biol 290-299 Special Problems in Biology

(See Page 49)

CHEMICAL TECHNOLOGY

CT 111 Introduction to Chemical Technology 3 Sem Hrs

Prerequisite: None. Introduces the student to Chemical Technology as a career. Topics include significant figures, error limits, limits of precision for standard laboratory equipment, data taking, and the Handbook of Chemistry and Physics. Selected laboratory experiments are designed to acquaint the student with various phases of industrial chemistry procedures and equipment. (2-3)

CT 112 Chemical Technology Calculations 5 Sem Hrs

Prerequisite: Mathematics 101. Emphasis is on the application of trigonometry, the slide rule and elementary statistics to problems of calculation which are encountered by the chemical technologist. Selected laboratory experiments are designed to furnish laboratory conditions for mathematical applications. (4-3)

CT 211 Principles of Organic Compounds 5 Sem Hrs

Prerequisite: Chemistry 101. An introduction to hydrocarbons and organic compounds. Includes bonding and structure (isomers), alkanes, alkenes, alcohols, aldehydes, ethers, esters, amines, ketones, cyclic compounds, organic acids, and polymerization. (5-0)

CT 215 Physical Principles 5 Sem Hrs

Prerequisite: Chemistry 102 and Physics 121. Basic principles of physical chemistry including states of matter, phase equilibria, solutions, electro chemistry, physical properties, thermodynamics, and chemical kinetics. (5-0)

CT 221 Chemical Processes Calculations 3 Sem Hrs

Prerequisite: Chemical Technology 215. Stoichiometric principles—conservation of matter and energy. Topics include mass, heat, momentum transfer applied to heat transfer, fluid flow, distillation, humidity, drying evaporation, and extraction. (3-0)

CT 235 Industrial Laboratory Methods I 6 Sem Hrs

Prerequisite: Concurrent with or subsequent to Chemical Technology 211 and Chemical Technology 215. Lectures cover theory and usage of instrumentation. Laboratory experiments apply the principles covered in Chemical Technology 211 and Chemical Technology 215 to practical commercial problems using typical industrial laboratory hardware. (2-12)

CT 236 Industrial Laboratory Methods II 6 Sem Hrs

Prerequisite: Chemical Technology 235 and concurrent with or subsequent to Chemical Technology 221. A continuation of Chemical Technology 235 with emphasis on application of the principles covered in Chemical Technology 221. (3-9)

CT 250 Seminar and Special Projects 2 Sem Hrs

Prerequisite: Concurrent with or subsequent to Chemical Technology 221 and Chemical Technology 236. Designed to develop independent work habits through special projects of the pertinent and current nature. Emphasis will also be given to using library resources, technical journals, handbooks, and catalogs. (1-3)

CT 290-299 Special Problems in Chemical Technology

(See Page 49)

CHEMISTRY

Chem 101 General Chemistry 5 Sem Hrs

Prerequisite: One year of high school algebra. Fundamental principles including laws of chemical combination, states of matter, and chemical phenomena with reference to modern theoretical principles. Designed as a preparatory to Chemistry 111, for those students with no previous work in Chemistry and to satisfy a science requirement in certain curricula. These students using Chemistry 101 as a prerequisite for Chemistry 111 receive credit only for Chemistry 111 toward graduation from Delta College. (5-2)

Chem 102 General Chemistry 3 Sem Hrs

Continuation of Chemistry 101. Emphasis on equilibrium metals, and thermal reactions and non-metals. Also selected topics in organic and biochemistry. (3-2)

Chem 111 General and Inorganic Chemistry 4 Sem Hrs

Prerequisites: High school chemistry or Chemistry 101 and one year of high school algebra with satisfactory placement test scores. Principles concerning structure of matter, chemical and physical changes that matter undergoes, and application of these principles in the laboratory. For students who will need advanced chemistry courses beyond one year of general chemistry, chemistry majors, chemical engineers, pre-dentistry, pre-medicine, pre-veterinary, chemical technology, medical technology and forestry. (4-3)

Chem 112 General Chemistry and Qualitative Analysis 4 Sem Hrs

Prerequisite: Chemistry 111. Continuation of Chemistry 111. Descriptive study of metals and non-metals, electrochemistry, and of equilibrium and further study of principles. (4-3)

Chem 115 Engineering Problems 1 Sem Hr

Prerequisite: Chemistry 111. Intended to familiarize the student with equilibria, electrochemistry, redox equations and titrations. (1-0)

Chem 122 General and Analytical Chemistry 5 Sem Hrs

Prerequisite: Chemistry 111 and approval of the chemistry department. Descriptive chemistry of metals and non-metals including all phases of equilibria. Qualitative Analysis of the cations and quantitative analysis experiments in the laboratory. (4-6)

Chem 201 Organic Chemistry 5 Sem Hrs

Prerequisite: Chemistry 112 or 122. A course in the basic principles of organic reactions and laboratory techniques meeting the professional needs of medical technologists, dental students, and others. (4-4)

Chem 202 Organic Chemistry 5 Sem Hrs

Prerequisite: Chemistry 201. A continuation of Chemistry 201. (4-4)

Chem 211 Organic Chemistry 5 Sem Hrs

Prerequisite: Chemistry 112 or Chemistry 122 with a grade of C or better. A more rigorous course featuring reaction mechanism and structural theory of organic chemistry. Required for majors in chemistry, chemical engineering, and chemical technology. (4-4)

Chem 212 Organic Chemistry 5 Sem Hrs

Prerequisite: Chemistry 211. A continuation of Chemistry 211. (4-4)

Chem 221 Qualitative Analysis 4 Sem Hrs

Prerequisite: Chemistry 112. Principles of chemical equilibria with semi-micro chemical analysis of representative cations and anions. (3-6)

Chem 222 Quantitative Analysis 4 Sem Hrs

Prerequisite: Chemistry 122 or Chemistry 221. Similar to Chemistry 223 but adapted to the needs of medical technology students. Not accepted for chemistry or pre-medical majors. (3-6)

Chem 223 Quantitative Analysis 4 Sem Hrs

Prerequisite: Chemistry 122 or Chemistry 221. Theory and practice of volumetric and gravimetric analysis with major emphasis on volumetric analysis. (3-6)

Chem 290-299 Special Problems in Chemistry

(See Page 49)

FIRE PROTECTION

Fire Prot Tech 201 Fire Hazards I 3 Sem Hrs

Prerequisite: None. A basic course in the chemistry, use, storage, handling, control, transportation of, and fire protection against hazardous liquids, solids, gases, oxidizers, water-reactive chemicals, and gases. Demonstrations will illustrate readings and discussions. (3-0)

Fire Prot Tech 202 Fire Hazards II 3 Sem Hrs

A course in the control of and the fire protection against specific hazards connected with processing, handling, transporting, and storing flammable liquids, gases, solids; Also the control of and fire protection against fire hazards in aviation, shipbuilding, use of radio-active material and radiation machines, building construction, business (hardware, farming, elevators, etc.), and housekeeping. (3-0)

Fire Prot Tech 290-299 Special Problems in Fire Protection Technology

(See Page 49)

GEOGRAPHY

Geog 111 Physical Geography 4 Sem Hrs

Prerequisite: None. Study of the natural environment which is important to man and his activities; introduction to maps and physical features; earth-sun-moon relationships; earth materials, land forms; drainage; and major natural resources. Introduction to weather and climate, soils and vegetation—their character, causes, significance and distribution. (4-1)

Geog 113 World Regional Geography 4 Sem Hrs

Prerequisite: None. Essential geographic characteristics and significant problems of the major regions of the world; cultural and natural resources of the nations of the world. (4-0)

Geog 211 Economic Geography 4 Sem Hrs

Prerequisite: Geography 111 or 113, or permission of instructor. Fundamentals of economic activities of the major world geographic regions; a study of activities, such as, agriculture, forestry, fishing, mining, manufacturing, transportation, and trade. (4-0)

Geog 221 Geography of South America 3 Sem Hrs

Prerequisite: Geography 111 or 113. Regional geographic interpretation of the area as a continent. Study of relationships of physical, economical, social and political environment to human activity. (3-1)

Geog 222 Geography of Asia 3 Sem Hrs

Prerequisite: Geography 111 or 113. Similar to Geography 221 but applied to the continent of Asia. (3-1)

Geog 223 Geography of Europe 3 Sem Hrs

Prerequisite: Geography 111 or 113. Similar to Geography 221 but applied to Europe. (3-1)

Geog 224 Geography of Africa 3 Sem Hrs

Prerequisite: Geography 111 or 113. Similar to Geography 221 but applied to the continent of Africa. (3-1)

Geog 225 Geography of Middle America 3 Sem Hrs

Prerequisite: Geography 111 or 113. Similar to Geography 221 but applied to the Mexico, Central America, and insular Caribbean areas. (3-1)

Geog 226 Geography of Anglo America 3 Sem Hrs

Prerequisite: Geography 111 or 113. Similar to Geography 221 but applied to the United States and Canada. (3-1)

Geog 231 Climatology 3 Sem Hrs

Prerequisite: Geography 111 and consent of instructor. Analysis of climate elements and controls; classification and distribution of climate types; fundamentals of geophysics. Offered in Fall semester only. (2-2)

Geog 290-299 Special Problems in Geography

(See Page 49)

GEOLOGY

Geol 111 Physical Geology 4 Sem Hrs

Prerequisite: None. A study of the materials and agents responsible for the development of topographic and structural features of the earth. Introductory study of common rocks and minerals. Introduction to maps. One field trip is required. (3-2)

Geol 112 Historical Geology 4 Sem Hrs

Prerequisite: Geology 111. Study of the successive stages in development of North America as a typical continent, and the evolution of life. Interpretation of topographic and geologic maps and identification of invertebrate fossils. One field trip is required. (3-2)

Geol 211 Mineralogy 4 Sem Hrs

Prerequisite: One semester of college chemistry (may be taken concurrently) or permission of the instructor. Introduction to the common crystal systems of minerals, followed by a study of the physical and chemical properties, occurrence, formation, and uses of approximately 200 important economic and rock-forming minerals. (1-4)

Geol 221 Invertebrate Paleontology 3 Sem Hrs

Prerequisite: Geology 112 or permission of the instructor. Morphology, classification, development, and geologic range of the major invertebrate groups. (2-2)

Geol 231 World Mineral Resources (Non-metallic) 3 Sem Hrs

Prerequisites: Geology 111 and 112 or permission of instructor. Study of the origin and geographic distribution of petroleum, coal, building stones, lime and cement, clay, sand and gravel, salt and gypsum fertilizers, gem stones, and other non-metallic minerals. Occasional field trips. (3-0)

Geol 232 World Mineral Resources (Metallic) 3 Sem Hrs

Prerequisites: Geology 111 and 112 or permission of instructor. Study of the origin and geographic distribution of iron, copper, lead, zinc, aluminum, radioactive minerals, and other metallic resources. Occasional field trips. (3-0)

Geol 290-299 Special Problems in Geology

(See Page 49)

PHYSICAL SCIENCE

Phys Sc 101 Physical Science 4 Sem Hrs

Prerequisite: High school algebra and plane geometry. For students interested in understanding the major concepts of geology, chemistry, astronomy, and physics. It is intended to give the student a better grasp of the scientific method and to afford practice in critical thinking. (3-2)

Phy Sc 102 Physical Science 4 Sem Hrs

Prerequisite: Physical Science 101. Continuation of Physical Science 101. (4-0)

Phy Sc 290-299 Special Problems in Physical Science

(See Page 49)

PHYSICS

Physics 101 Applied Physics 5 Sem Hrs

Prerequisite: Mathematics 92 and Mathematics 93 or equivalent. Designed to cover the same subjects as high school physics course with emphasis on mechanics, heat and fluids as required for technical programs. (5-2)

Physics 111 General Physics 4 Sem Hrs

Prerequisite: Physics 82 or high school physics, and high school algebra I and II. Trigonometry recommended. Designed to familiarize the student with basic physical principles. Deals with mechanics, heat and sound. (4-3)

Physics 112 General Physics 4 Sem Hrs

Prerequisite: Physics 111. Continuation of Physics 111. Covers magnetism, electricity, light and modern physics. (4-3)

Physics 121 Chemical Physics 2 Sem Hrs

Prerequisite: Mathematics 101. Principles of heat, sound, light and optics. (2-0)

Physics 211 Physics 5 Sem Hrs

Prerequisite: High school physics or equivalent, and Mathematics 161 or its equivalent. For engineers and science majors. Mechanics, heat and sound. (5-3)

Physics 212 Physics 5 Sem Hrs

Prerequisite: Physics 211 and Mathematics 162. Continuation of Physics 211. Magnetism, electricity, light, and modern physics. (5-3)

Physics 215 Engineering Mechanics, Statics 3 Sem Hrs

Prerequisite: Physics 211 and Mathematics 162. Mathematics 162 may be taken as a parallel course. Covers forces, components, vectors, moments, couples, methods of sections, stress in frame structures, cables, friction, first moments, products of inertia, and centroids. (3-0)

Physics 290-299 Special Problems in Physics

(See Page 49)

SOCIAL SCIENCE DIVISION

Division Chairman—Richard E. Klein, Associate Professor

Professor

Dr. Louis W. Doll
Dr. Harry Parks—Emeritus
Dr. Robert M. Roman

Associate Professor

Paul E. Carrico
Patricia Drury
Clarence W. Hackbarth
David C. Howard

Assistant Professor

Harold D. Arman
Dr. Jean G. Cheger
Lawrence E. Glynn
Joseph M. Godard
Jon W. Gosser
Calvin A. Hoerneman
Paul E. Leek
John R. Wilhelm

Instructor

Karl A. Boedecker
Donald E. Dombrowski
Mary K. Fayerweather
David R. Kennedy
Jeremy W. Kilar
Paul D. Moore
Thomas R. Ortenburger
Santiago Peregrino
Joan K. Swartz
Jerry B. Tingstad
Judith A. Wiley
Jay J. Zumeta

ECONOMICS

Econ 111 Essentials of Economics 3 Sem Hrs

Prerequisite: None. A survey of the operation of the American economy as a mixed economy and the principles of contemporary economic analysis that underlie its operation. (3-0)

Econ 112 Essentials of Economics 3 Sem Hrs

Prerequisite: Economics 111. Continuation of Economics 111 with major emphasis on surveying selected current economic problems and making application of economic analysis to these problems (3-0)

Econ 221 Principles of Economics 4 Sem Hrs

Prerequisite: Sophomore standing or permission of instructor. The allocation problems of every society with emphasis on their solutions under the American capitalistic economy, preliminary analysis of the demand and supply activities of individuals, firms, groups, and governments; measuring national income and product, and explaining their fluctuations; monetary and banking institutions in relation to specialization and exchange, business cycles, and government fiscal and monetary policies. (4-0)

Econ 222 Principles of Economics 4 Sem Hrs

Prerequisite: Economics 221. The commodity markets; prices as causes and effects of supply and demand; determinants of consumer buying and of the actions of firms as buyers and sellers; factor markets; wages, rent, and interest as special types of prices; the role of profits and profit expectations, growth and development problems; international trade and finance; alternative economic systems. (4-0)

Econ 231 Industrial Relations 3 Sem Hrs

Prerequisite: Economics 111 or 221. Provides a study of the human factor in industry. Problems of wages, hours, unemployment, working conditions; federal and state laws which relate to labor and management relations; policies and practices of unions and management. (3-0)

Econ 232 Case Studies in Labor Relations 3 Sem Hrs

Prerequisite: Permission of instructor. Application of principles of industrial relations to collective bargaining case studies. Actual cases are discussed and evaluated in reference to current labor laws and personnel practices. (3-0)

Econ 240 Agriculture in the Economy 4 Sem Hrs

Prerequisite: Economics 221. Economic and management principles in agriculture. Demand for farm product, principles of marketing and price determination. Identification of individual and social problems related to agriculture. Alternative approaches to their solution. (4-0)

Econ 280 Money and Banking 3 Sem Hrs

Prerequisite: Economics 111 or 221. The role of money and credit in the economic system; emphasizing the operation of the federal reserve system and private financial institution. (3-0)

Econ 290-299 Special Problems in Economics

(See Page 49)

HISTORY

Hist 111 A Survey of Early Western Civilization 4 Sem Hrs

Prerequisite: None. Political, social, economic, and cultural history of Eurpoe from Prehistoric times to the end of the Reformation. Particular attention given to characteristics of civilizations and their relevant contributions to the modern world. (4-0)

Hist 112 A Survey of Later Western Civilization 4 Sem Hrs

Prerequisite: None. History 111 recommended. Political, social, economic, and cultural history of Europe from the 1600's to the present time. Particular attention is given to cultural and democratic movements and their influence on current history. (4-0)

Hist 113 History of Michigan 2 Sem Hrs

Prerequisite: None. History from the time of first known human inhabitants through French and British domination, and finally American acquisition of Michigan leading to territorial status and statehood. Emphasis on Michigan history as a representative part of human culture. (2-0)

Hist 214 Blackman in America: pre Colombian Times to 1888 2 Sem Hrs

Prerequisite: None. History 221 recommended. Traces the interaction among Europeans, Africans, and aboriginal Americans with emphasis on the resultant slave trade and systems of slavery in North, Central and South America. Also examines sources and results of discrimination other than slavery. Theories and practices of abolitionists until emancipation in Brazil, 1888 are also studied. (2-0)

Hist 215 Blackman in the U.S.: 1888 to Present 2 Sem Hrs

Prerequisite: None. History 222 recommended. History of the shift in Negro attitudes from slave mentality to greater consciousness of racial pride and human dignity. Also traces the causes and effects of shifts in colored population from rural South to urban North and West. The impact of neo-segregation and other discrimination as well as the national and international effects of more extensive race consciousness will be examined. (2-0)

Hist 221 History of the United States to 1865 3 Sem Hrs

Prerequisite: None. An introductory course in American history from its immediate European background to the close of the Civil War. Special emphasis is given the growth of institutions and ideas. The political, economic, and social experience of the young Republic, and their influences on contemporary America are also examined. (3-0)

Hist 222 History of the United States from 1865 to the Present 3 Sem Hrs

Prerequisite: None. A survey of Modern America from the post Civil War period to the present with special emphasis on the industrial growth and agricultural protest. Experiments with imperialism, domestic reform, and world leadership and their influences on contemporary history are also studied. (3-0)

Hist 232 History of Russia 3 Sem Hrs

Prerequisite: History 111 or 112. History 112 especially recommended. A survey of the major lines of Russian political and cultural development from Kiev in the 900's to the present, with more emphasis on the 19th and 20th Century than on earlier eras. Student reports, on topics historical and cultural, constitute about 40% of course. (3-0)

Hist 244 History of Urban America 3 Sem Hrs

Prerequisite: An American History course or permission of instructor. A study of American cities from colonial times to the present. Several themes will be emphasized: European foundations of Urban America; Colonial solutions to the Urban challenge; and the problems of planning an American city. Factors in demographic and physical growth as well as the growth of mass transit, racial and ethnic composition, housing and urban violence will also be included. (3-0)

Hist 290-299 Special Problems in History

(See Page 49)

LAW ENFORCEMENT

LE 101 Police Recruit Training 4 Sem Hrs

Prerequisite: None. Designed to give the student the basic training necessary to assume the duties of a patrolman. Topics included are constitutional law, criminal law, laws of arrest, search and seizure, investigative techniques, first aid, firearms, motor vehicle laws, defensive tactics, and patrol techniques. Class meets for a minimum of 142 hours in a three-week period.

LE 102 Command Officers Training 3 Sem Hrs

Deals in both the theory and practice of good business procedures as applied to police operations and to improve the caliber of command officers. To be also concerned with conditioning the attitudes of command officers and creating an awareness of the responsibilities of command positions within a police department. (3-0)

LE 110 Introduction to Law Enforcement 3 Sem Hrs

Prerequisite: None. Philosophical and historical backgrounds; agencies and processes; administrative and technical problems; and career orientation. (3-0)

LE 111 Police Organization and Administration 3 Sem Hrs

Prerequisite: Law Enforcement 110. An analysis and study of the functional divisions of the modern police department. Functions to be studied will include management operations, coordination of activities, communications, recruiting, training, public relations and a look at the future of law enforcement. (3-0)

LE 112 Police Patrol Procedures 3 Sem Hrs

Study of patrol as a basic police function including both the theoretical and functional aspects. Responsibilities of, purposes, methods, types and means of police patrol. Examination of patrol strength layout, beats, technological advancements affecting the patrol officer. (3-0)

LE 180 Retail Security 2 Sem Hrs

Prerequisite: None. This course covers the organization and management of retail security for all types of retail outlets, large and small. Particular attention is given to retail security programs already functioning, the effectiveness and scope of these programs, and the changing problems in retail security. (2-0)

LE 184 Industrial Security 3 Sem Hrs

Prerequisite: None. Theoretical approach to the role of security officers in business and industry. Plant and business protection. Legal responsibilities and authority of plant security officers. Problems of business and industrial espionage and petty thefts. Report writing. (3-0)

LE 185 Industrial Security II 3 Sem Hrs

Prerequisite: LE 184. Practical approach to the role of security officers concerning fire prevention, safety programs, first-aid and internal security. (3-0)

LE 210 Introduction to Criminal Investigation 3 Sem Hrs

Introduction to criminal investigation procedures including theory of an investigation, conduct at crime scenes, collection and preservation of physical evidence; methods used in police science laboratory; finger prints, ballistics, documents, serology, photography, and related forensic sciences. (3-0)

LE 220 Crime Laboratory Techniques 3 Sem Hrs

Prerequisite: Law Enforcement 210. Field techniques for the preservation and collection of physical evidence at the scene of crime or civil disturbance. Application of techniques of crime photography, finger print lifting, plaster casting, blood stain preservation, and other methods of laboratory analysis. (3-3)

LE 250 Introduction to Juvenile Delinquency 3 Sem Hrs

Prerequisite: None. Juvenile delinquency theories, work of youth agencies, legislative involvements, and new developments in the prevention of juvenile crime. (3-0)

LE 260 Legal and Criminal Behavior 3 Sem Hrs

Application of psychological principles, methods, and techniques to legal and criminal problems and procedures. Examination of the formation, detection, prevention, and rehabilitation of criminal behavior. Psychological implications of testimony, legal arguments, trial tactics, and other courtroom procedures. Examination of interviewing and interrogation techniques and applicability of the polygraph process. (3-0)

LE 270 Evidence and Criminal Procedure 3 Sem Hrs

Prerequisite: None. Deals with rules of evidence and particular import at the operational level in law enforcement and with criminal procedure in important areas such as arrest, force, and search and seizure. (3-0)

LE 271 Criminal Law 3 Sem Hrs

Prerequisite: None. Elements and proof in crime of frequent concern in law enforcement with reference to principal rules of criminal liability. Importance of criminal law at the enforcement level is considered from crime prevention to courtroom appearance. (3-0)

LE 290-299 Special Problems in Law Enforcement

(See Page 49)

POLITICAL SCIENCE

Pol Sci 103 Introduction to American Government 3 Sem Hrs

Prerequisite: None. (Not open to students with credit in Political Science 111.) Organization and functions of the political, electoral, legislative, administrative, and judicial processes of the federal, state, and local governments. (This course satisfies the State requirements in political science.) (3-0)

Pol Sci 111 American Government and Politics 4 Sem Hrs

Prerequisite: None. (Not open to students with credit in Political Science 103.) A study of the American political system, utilizing the techniques of political science. Particular emphasis is placed on the organization and functioning of the electoral, legislative, administrative, and judicial process of the national government. Comparisons are made between federal, state, and local governments. Recommended for prelaw or social science majors or minors. (This course satisfies the State requirements in political science.) (4-0)

Pol Sci 128 Introduction to Urban-Public Service Problems 4 Sem Hrs

Prerequisite: P. S. 111 or 103. Covers the services normally performed in major areas of specialization (e.g., urban professional assistant, social/health services assistant and engineering assistant) and the organizational relationships of these specialties in an urban setting. (4-0)

Pol Sci 129 Public Relations for Public Service Employees 3 Sem Hrs

A basic general course in public service and community relations. Incorporates material from several social science disciplines and focuses on how public service personnel build good will, handle complaints, discharge follow-up responsibilities, etc. (3-0)

Pol Sci 212 State and Local Government 3 Sem Hrs

Prerequisite: A course in political science or permission of the instructor. Development, structure, organization and problems of the state and local units of governments along with their relation to the federal government. (3-0)

Pol Sci 221 Comparative Government 3 Sem Hrs

Prerequisite: A course in political science or history. The study of major European and selected non-western political systems. Emphasis is placed on the techniques of comparative analysis and concepts of modernization, political development, and political culture. (3-0)

Pol Sci 225 International Relations 3 Sem Hrs

Prerequisite: A course in political science or history. Introduction to the study of international politics. Covers the nation-wide system, cold war politics, colonialism and the problems of political stability. Also includes a survey of regional and international organizations. (3-0)

Pol Sci 227 American Political Parties 3 Sem Hrs

Prerequisite: A course in political science or United States history. History, structure, and functions of political parties in the United States; interaction of political parties, pressure groups, and public opinion. (3-0)

Pol Sci 228 Internship in Public Service 3 Sem Hrs

Prerequisite: P. S. 128. Upon completion of prerequisite, the student is assigned to available positions in governmental units for 20 hours per week for one semester. Students interested in taking the Federal Civil Service Exams will be given pre-exam training. Interns will meet each week to report on their job projects. (3-20)

Pol Sci 290-299 Special Problems in Political Science

(See Page 49)

PSYCHOLOGY

Psy 101 Applied Psychology 3 Sem Hrs

An introductory course in basic principles of human relations that may be used in business and industry. Emphasis on understanding motivation and behavior in practical situations; help in developing an appreciation of our own behavior so that students may work more successfully with supervisors and with peers. (3-0)

Psy 211 General Psychology 4 Sem Hrs

Prerequisite: Sophomore standing or permission of instructor, if second term freshman. Scientific principles underlying experience and behavior. Designed to give an understanding of human behavior as affected by learning, motivation, intelligence, and personality. (4-0)

Psy 223 Child Psychology 3 Sem Hrs

Prerequisite: Psychology 211. Facts and generalizations concerning growth of children from conception to adolescence; this course deals with physical, mental, social and emotional development. (3-0)

Psy 231 Psychology of Personality 3 Sem Hrs

Prerequisite: Psychology 211. Application of psychological principles to interpersonal behavior; study of factors in the development of constructive personal adjustment as influenced by human relations in home, school and community. (3-0)

Psy 290-299 Special Problems in Psychology

(See Page 49)

SOCIOLOGY

Soc 121 Marriage and Family 3 Sem Hrs

Prerequisite: None. The study of family relationships in anticipation for, and participation in marriage and family life. Consideration is given to historical, social, psychological, biological, and economic factors which contribute to the success or failure in family relationships. Credits are transferable as elective or minor credits, but, in accordance with individual college policies, may not apply toward a major in sociology. (3-0)

Soc 150 Community Organization and Analysis 3 Sem Hrs

A survey of the various public and private social agencies present in the community. Primary emphasis is upon the specific purposes of these agencies and their role in community organization. This course is designed primarily for students enrolled in Public Service Curriculums to acquaint them with the resources available for meeting community problems. (3-0)

Soc 211 Principles of Sociology 3 Sem Hrs

Prerequisite: None. An analysis of the structure and function of society and community through consideration of the basic generalizations and concepts utilized in sociology. (3-0)

Soc 212 Social Problems 3 Sem Hrs

Prerequisite: Sociology 211 or Psychology 211. An analysis of contemporary social problems within the theoretical framework of social change, value conflicts, and social deviation; an attempt to examine resulting political as well as personal disorganization. (3-0)

Soc 231 Cultural Anthropology 3 Sem Hrs

Prerequisite: Sophomore standing or consent of instructor. An introduction to man in his cultural setting. Emphasis will be given to the study of primitive cultures and the implications for understanding our own culture. (3-0)

Soc 290-299 Special Problems in Sociology

(See Page 49)

TECHNICAL DIVISION

Division Chairman—Wilbert Kleinsmith, Assistant Professor

Associate Professor	Assistant Professor	Instructor
Donald A. Miotto	Thomas R. Freiwald	Darrell R. Berry
William J. Streib	John T. Hoffman	William S. Guild
	Arthur M. Leinberger	Michael L. Holcombe
	Richard E. Miller	Don E. Holzhei
	Joseph R. Paquin	Kenneth W. Masck
	Arnold A. Schwartz	Craig A. McClain
	Robert N. Tinker	Ralph M. McGivern
		Alvin H. Schmidt

ARCHITECTURE

Arch Tech 101 Materials and Methods of Architectural Construction 2 Sem Hrs

Prerequisite: None. A study of the basic building materials of the construction industry. Emphasis on handling and placing the various materials into typical assemblies and arrangements. (1-2)

Arch Tech 105 Architectural Drafting I 7 Sem Hrs

Prerequisite: None. Exercises in the fundamentals of Architectural Drafting including linework, lettering, symbols, orthographic and pictorial representation. Exercises in the development of freehand and instrument drawings of wall, roof, and floor assemblies of various types of construction. Introduction to construction drawings. (3-12)

Arch Tech 106 Architectural Drafting II 7 Sem Hrs

Prerequisite: Architectural Technology 105 or permission of the instructor. Development of construction drawings for a residence including architectural, electrical, and mechanical. Development of outline specifications. (3-12)

Arch Tech 111 Mechanical and Electrical Equipment for Buildings 4 Sem Hrs

Prerequisite: None. A study of the fundamentals and operating principles of mechanical and electrical equipment for buildings; including water systems, fire protection, plumbing systems, air conditioning systems, electrical systems, vertical transportation, sound and signal systems, and acoustics. (4-0)

Arch Tech 202 Specifications and Contracts 2 Sem Hrs

Prerequisite: None. A study of basic principles and legal implications of contracts, architectural office practice, specifications, and building codes. (2-0)

Arch Tech 203 Estimating 2 Sem Hrs

Prerequisite: Architectural Technology 101 or permission of the instructor. A study of the principles of calculating labor and material costs and of building construction. (2-0)

Arch Tech 205 Architectural Drafting III 7 Sem Hrs

Prerequisite: Architectural Technology 106. Development of construction drawings for a non-residential building. Introduction to concrete and steel construction, with their various detailing requirements, symbolisms and characteristics in terms of installation of mechanical and electrical systems. Development of outline specifications. (3-12)

Arch Tech 206 Architectural Drafting IV 7 Sem Hrs

Prerequisite: Architectural Technology 205. Interpretation of an architect's sketches into a meaningful preliminary which would indicate a buildable building in the envelope displayed. Development of construction drawings based on the preliminary. Simulated office procedure using project teams. Development of outline specifications. (3-12)

Arch Tech 211 Elements of Structural Design 4 Sem Hrs

Prerequisite: Physics 101 or permission of the instructor. Review of basic mechanics. Analysis of live and dead loads on simple structural members. Use and limitations of wood, steel and concrete handbooks in structural design. Use of structural calculations in solving basic structural problems. (4-0)

Arch Tech 212 Theory and Practice of Structural Steel Design 4 Sem Hrs

Prerequisite: Architectural Technology 211 or permission of instructor. A detailed study and practice of methods used in structural steel design, drafting and fabrication. Includes load and stress analysis, structural framing and connection design, and drafting techniques used in the development of shop drawings. This course is not required in any curriculum, nor may it be used as a substitute or as an elective in the Architectural Technology Curriculum. (3-2)

Arch Tech 221 Site Preparation 2 Sem Hrs

Prerequisite: None. A study of the fundamentals of site preparation including utilities, soil testing, landscaping, drives, and walkways. Elements of surveying including: use of equipment, measurement of distances, angles, elevations, contours, drainage, and other site work related to buidling design and location. Development of a site plan and details. (1-2)

Arch Tech 231 Concrete Fundamentals 3 Sem Hrs

Prerequisite: None. A detailed study of the history, manufacture, characteristics and types of cement. Selection and design of concrete mixtures; sampling and testing plastic concrete; placing, finishing, and curing of concrete. Concreting during hot and cold weather. (3-0)

Arch Tech 290-299 Special Problems in Architectural Technology

(See Page 49)

AUTOMOTIVE

ATS 101 Service Orientation and Maintenance 12 Sem Hrs

Prerequisite: None. The primary objectives of this course is to provide the student with the basic skills necessary for employment in the automotive service industry. Emphasis is placed upon job orientation, efficient shop organization, safe work habits, and the development of accuracy and care in the performance of mechanical duties. The student will be introduced to a background knowledge of the components and operating principles of the automobile through a program which is saturated with practical experience and with lecture classes utilized on an "as needed" basis. (6-18)

ATS 102 Electrical and Fuel System Service 12 Sem Hrs

Prerequisite: None. The student is exposed to the information necessary to perform efficient tune-ups and electrical services, to provide experience in component disassembly, testing and reassembly, and to perform needed bench tests of these components. Speed, quality, and thoroughness are stressed in this phase of the program along with the development of efficient work habits. "Hands on" experience is again emphasized through a utilization of lectures on an "as needed" basis. (6-18)

ATS 103 Suspension and Brake Service 12 Sem Hrs

Prerequisite: None. Emphasis is placed upon proper procedure involved with alignment and brake services, and on the ability to merchandise these alignment and brake services. The full utilization of "hands on" experience provides for development of diagnostic abilities along with development of sound repair and work habits which provides the basis for the maturation of a qualified alignment and brake specialist. (6-18)

AT 101 Service Orientation and Maintenance 3 Sem Hrs

Prerequisite: None. Students will perform "wait-on" maintenance and service jobs on customers' automobiles. Emphasis is on the types of service employers expect their technicians to perform. (2-3)

AT 103 Engines 3 Sem Hrs

Prerequisite: AT 101. (May be taken concurrently.) Principles, design, construction, operation and service procedures of modern gasoline engines. Students are prepared for practical experience in engine maintenance and service. (2-3)

AT 105 Laboratory Practices 2 Sem Hrs

Prerequisite: AT 103. (May be taken concurrently.) Students make practical application of service procedures and techniques included in previous technical courses. Primary objective is to provide students with supervised practical experience. (0-5)

AT 106 Automotive Electricity 4 Sem Hrs

Prerequisite: None. Course content is based on electrical fundamentals and practical applications. Instructional units include electricity and magnetism, storage batteries, ignition systems, charging system, starting systems, and instrumentation. (4-0)

AT 110 Diagnosis and Tune-Up 3 Sem Hrs

Prerequisites: AT 103 and AT 106. Study of automotive diagnoses and tune-up procedures as they pertain to the function and control of the engine, fuel, ignition, starting and charging systems. (2-3)

AT 111 Cranking and Charging Systems 3 Sem Hrs

Prerequisites: AT 101 and AT 106. Comprehensive study of components and circuitry involved in starting and charging systems including the function, design, construction, operation, trouble shooting and service procedures. (2-3)

AT 112 Laboratory Practices 2 Sem Hrs

Prerequisites: AT 110 and AT 111. (May be taken concurrently.) Students make practical application of service procedures and techniques included in previous technical courses. Primary objective is to provide students with supervised practical experience. (0-5)

AT 113 Fuel Systems 3 Sem Hrs

Prerequisite: None. Students are exposed to the theory of carburetion along with a detailed study of the construction, operation, and trouble shooting practices involved with all components of a fuel system. (3-0)

AT 206 Wheel Alignment 3 Sem Hrs

Prerequisite: None. Study of automotive suspension systems including nomenclature, theory of operation, and service and repair procedures. Emphasis is on passenger car and light truck suspension systems, wheels and tires, steering gears, and related components. (2-3)

AT 207 Brake Service 3 Sem Hrs

Prerequisite: None. Passenger car and light truck brake systems are studied with emphasis placed on nomenclature, theory of operation, and service and repair procedures. Included in the program are power brake, emergency brake, and disc brake systems. (2-3)

AT 208 Laboratory Practice 2 Sem Hrs

Prerequisites: AT 206 and AT 207. (May be taken concurrently). Students make practical application of service procedures and techniques included in previous technical courses. Primary objective is to provide students with supervised practical experience. (0-5)

AT 209 Electrical Circuits 3 Sem Hrs

Prerequisite: AT 106. Provides a thorough understanding of chassis and body wiring diagrams as they apply to diagnosis, replacement or repair of horn, lighting, accessory, signaling and warning devices. Stress on interpretation of the function and location of units with respect to diagnosis, service and replacement of defective units. (3-0)

AT 211 Driveline Fundamentals 7 Sem Hrs

Prerequisite: None. A course emphasizing the fundamentals of major driveline components such as clutches, standard transmissions, over-drive transmissions, automatic transmission, differentials, and rear suspension systems. Service of these components is an integral part of the total program. (5-5)

AT 212 Laboratory Practice 2 Sem Hrs

Prerequisite: AT 211. (May be taken concurrently.) Students make practical application of service procedures and techniques included in previous technical courses. Primary objective is to provide students with supervised practical experience. (0-5)

AT 213 Service Management 4 Sem Hrs

Prerequisite: None. An orientation to the automotive industry: study of common channels of distribution, the major franchise, and allied lines. Included is the dealership, its location, building facilities and organizational structure. Emphasis is placed on service management responsibilities organizing service personnel, organizing facilities, establishing objectives and controlling performance. (4-0)

AT 290-299 Special Problems in Automotive Technology

(See Page 49)

DRAFTING

Dr 101 Engineering Drawing 10 Sem Hrs

Prerequisite: None. Introduction to engineering drawing, freehand sketching, the tools we work with, drafting equipment, the methods we use, freehand lettering, how to draw lines, types of lines, drafting geometry, projection of views, sectioning views, drafting conventions, dimensioning, lettering notes, bill of material, assembly drawings, detail drawings, pictorial drawings, how to check a drawing, types of drawings. (5-15)

Dr 102 Tool Design 10 Sem Hrs

Prerequisites: Dr 101 and MT 111. Introduction to tool design, tool drawings, tools, fourteen steps to design a tool, the workpiece, locators, clamps, guide bushings, bushing plates, support jacks, actuating cams, controls, machine components, bases, mounting feet, fasteners, dimensions and notes, bill of material, the design process, types of tools. (5-15)

Dr 103 Die Design 10 Sem Hrs

Prerequisites: Dr 101, Dr 102, MT 111, and Dr 110. Introduction to die design, presses and press accessories, the material strip, the blank, fourteen steps to design a die, scrap strips, die blocks, blanking punches, piercing punches, punch plates, pilots, gages, finger stops, automatic stops, strippers, fasteners, die sets, dimensions and notes, bill of material, types of dies. (5-15)

Dr 110 Dimensional Measurement 4 Sem Hrs

Prerequisite: Math 91 or equivalent. This course is designed around the practical application of fractions, decimals, and whole numbers as they relate to the drafting room or machine shop. Content includes measuring tools, weights and measures, geometric construction and measurement, percentages, ratios, speeds of pulleys and gears, speeds and feeds of machine tools, and the Table of Natural Functions and its relationship with practical application in the industrial setting. (4-0)

Dr 155 Orthographic Projection 3 Sem Hrs

Prerequisite: None. Use of instruments, lettering, principles of orthographic projection, auxiliary views, sections, dimensioning, pictorial drawing and white printing. (1-5)

Dr 156 Descriptive Geometry 3 Sem Hrs

Prerequisite: Drafting 155 or 106. Emphasis on space visualization and processes of solution. Problems comprise combinations of points, lines, planes, intersections, developments, warped surfaces, true angles, true size and shape, vectors, shades and shadow and conics. (1-5)

Dr 210 Creative Design Sketching 3 Sem Hrs

Prerequisite: Industrial Drafting 105, or Orthographic Projection 155 and/or equivalent. The course provides opportunity to develop reasonable skill in freehand sketching, and greater awareness of its industrial application and problem solving potential. Function rather than beauty of the sketch is stressed. Topics covered: Review of the multiview and pictorial projection; observation and proportion; on-the-spot sketching; emphasis techniques; exploded assemblies; design and redesign of products and processes; (problem and idea); group presentation methods. (1-4)

Dr 216 Electrical Drafting 2 Sem Hrs

Prerequisite: Drafting 105, accompanied by Electronic Technology 214. Standard electrical symbols, elementary wiring diagrams, and electrical codes are studied and applied. (0-4)

Surv 205 Elements of Surveying 3 Sem Hrs

Prerequisite: Mathematics 102 or equivalent. Elements of surveying; use of equipment, measurement of distances, angles, and evaluation, analysis and use of verniers; traverses and topographic surveys and mapping. (1-4)

Dr 290-299 Special Problems in Drafting

(See Page 49)

ELECTRONICS

Eln Tech 101 Industrial Electricity and Electronics 3 Sem Hrs

Prerequisite: High school algebra or equivalent. A survey of the fundamentals of electricity and electronics. (2-2)

Eln Tech 111 Fundamentals of DC Circuits 4 Sem Hrs

Prerequisite: Mathematics 101 or equivalent. May be taken concurrently. Theory and applications of direct current electricity including resistance, basic circuit laws, magnetism, and direct current instrumentation. (3-2)

Eln Tech 112 Fundamentals of AC Circuits 3 Sem Hrs

Prerequisites: Electronic Technology 111, Mathematics 101. Mathematics 102 may be taken concurrently. Theory and applications of alternating current electricity including representation of AC wave, impedence, basic circuit computations, and alternating current instrumentation. (2-2)

Eln Tech 115 Electronic Devices 2 Sem Hrs

Prerequisite: Electronic Technology 111 or equivalent. May be taken concurrently. Study of transistors, integrated circuits, and vacuum tubes. Emphasis is placed on mathematical and graphical techniques used to describe their characteristics. (1-2)

Eln Tech 116 Electronic Devices and Circuits 2 Sem Hrs

Prerequisites: Electronic Technology 115, Electronic Technology 112 or equivalent. Electronic Technology 112 may be taken concurrently. Basic amplifiers and their characteristics. Both transistor and vacuum tube circuits are covered. (1-2)

Eln Tech 150 Electronics for Scientists 4 Sem Hrs

Prerequisite: Math 162 or Equivalent. A course providing a broad background in electrical and electronic principles for the scientist who uses control systems, electronic instrumentation, and data processing in his work. Subjects covered will include the theory and application of amplifiers, power supplies, and other systems used in modern instrumentation and process control. Special emphasis will be on feedback systems and uses of operational amplifiers. (3-2)

Eln Tech 152 Control Theory for Scientist 4 Sem Hrs

Prerequisite: Eln Tech 150. A course providing a broader background in basic control theory and application. Subjects to be covered will include fundamental control theory and applications, modern filter systems, and instrumentation schemes. (3-2)

Eln Tech 212 Electronic Circuits 3 Sem Hrs

Prerequisite: Electronic Technology 112. Study of the principles of operation and industrial applications of vacuum and gas tubes, photo-electric cells, and cathode ray tubes. Basic circuits using these tubes are studied. (3-2)

Eln Tech 213 Solid State Devices 3 Sem Hrs

Prerequisite: Electronic Technology 112 and 116. Study of the theory and applications of transistors and other semi-conductors. The practical uses of these devices in industrial and communications circuits are emphasized. (2-2)

Eln Tech 214 Design of Electronic Circuits 4 Sem Hrs

Prerequisite: Electronic Technology 213. Elementary principles of operation of rectifiers, amplifiers of various types, modulation, demodulation and detection are studied. (3-2)

Eln Tech 215 Electronic Control and Automation 4 Sem Hrs

Prerequisite: Electronic Technology 241 and 213. Automatic control devices including regulating and automatic feed-back systems are studied. Induction heating, resistance welding, process timing, and similar circuits are examined. (3-2)

Eln Tech 221 Electrical and Electronic Measurements 3 Sem Hrs

Prerequisite: Physics 112, accompanied by Electronic Technology 116. A study of the design, application and limitations of direct and alternating current, and electronic measuring instruments. (2-2)

Eln Tech 231 Electronic Fabrication 3 Sem Hrs

Prerequisite: Electronic Technology 216. Use of electrical hand tools, wiring, safety practice, techniques of chassis fabrication, performance testing, and trouble shooting. (1-4)

Eln Tech 235 Electrical Circuits 4 Sem Hrs

Prerequisite: Mathematics 101 or equivalent. Basic direct and alternating current circuits and their applications in machine operation and control; electrical measuring instruments. (3-2)

Eln Tech 241 AC and DC Machines and Controls 2 Sem Hrs

Prerequisite: Electronic Technology 112. Basic study of AC and DC machines and their controls. (2-0)

Eln Tech 252 Basic Industrial Instrumentation 4 Sem Hrs

Prerequisite: Electronic Technology 116, Electronic Technology 213 may be taken concurrently. A study of components of applied instrumentation including transducers, processing systems and recorders. Mechanical, electrical, hydraulic, pneumatic, acoustical, and photometric topics are covered. (3-2)

Eln Tech 290-299 Special Problems in Electronic Technology

(See Page 49)

MECHANICAL

Mech Tech 111 Manufacturing Processes 3 Sem Hrs

Prerequisite: None. Fundamental production processes including ore reduction, steel making, heat treating, foundry practice, hot and cold working, press work, and production machining processes. (3-0)

Mech Tech 205 Basic Kinematics 3 Sem Hrs

Prerequisite: Physics 101 or Physics 111, Mech Tech 251, Math 102 or equivalent. Study of basic motion concepts; velocities and acceleration in mechanism, motion curves; cams; gears; belt, chain and gear trains; miscellaneous mechanisms. (2-2)

Mech Tech 213 Machine Tools 3 Sem Hrs

Prerequisite: None. Introduction to the industrial shop. Safety, materials, hand tools, precision instruments, purpose and operation of machine tools. Course content is developed around the use of drill presses, lathes, shapers, mills, grinders, and saws. (1-5)

Mech Tech 215 Methods Engineering 3 Sem Hrs

Prerequisite: Mechanical Technology 111. Fundamentals of motion and time study, methods of motion analysis and principles of effective work flow; designing and evaluating improved methods. (3-0)

Mech Tech 220 Introduction to Fluid Power 3 Sem Hrs

Prerequisite: Mathematics 102 or equivalent. Fundamentals of fluids, fluid circuits and their applications in machine operation, control and measuring devices. (2-2)

Mech Tech 221 Materials and Metallurgy 3 Sem Hrs

Prerequisite: None. Structure, use and treatment of ferrous, non-ferrous, and non-metallic materials as used in mechanical design. (3-2)

Mech Tech 222 Pneumatic Power and Control 3 Sem Hrs

Prerequisite: Mechanical Technology 220 or permission of instructor. Study of compressed air power in industrial and commercial applications. Mathematical and graphical treatments in design of circuits. Emphasis on circuits which sense and control mechanical, fluid, electrical, or thermal systems. Includes fluid logic and fluidics. (2-2)

Mech Tech 250—Electronic Mechanics 3 Sem Hrs

Prerequisite: Physics 111 or Physics 101, and Math 102 or equivalent. Study of forces acting on rigid bodies, including applications of these forces to practical design problems. Concepts of stress in tension, compression, torsion, and shear in various combinations are developed and utilized. (3-0)

Mech Tech 251 Mechanics 3 Sem Hrs

Prerequisite: Physics 111 or Physics 101 and Mathematics 102 or equivalent. Study of forces acting on rigid bodies by analytical means; equilibrium laws for various force systems; centroids, center of gravity; moments of inertia, introduction to elementary dynamics. (3-0)

Mech Tech 252 Strength of Materials 3 Sem Hrs

Prerequisite: Mechanical Technology 251. Fundamentals of stress and strain, torsion, shear, bending, and deflection of beams, combined stresses, riveted and welded joints. (2-2)

Mech Tech 256 Machine Design 3 Sem Hrs

Prerequisites: Mech Tech 205, Mech Tech 251. General problems of force and motion applied to simple machines; design stress and dynamic loading; power and power transmission; shafts in bending and torsion; keys and keyways; pulleys, belts and gears; couplings; bearings; clutches; cylinders; screws, fasteners; springs; fits, allowances, and tolerances. (3-0)

Mech Tech 261 Numerical Control 3 Sem Hrs

Prerequisite: Data Processing 133. A basic course in numerical control applied to machine tools. History and description of types of control systems and the capabilities of each. Elementary parts programming is covered. The course is designed for students who have some knowledge of basic machine processes. Offered in Evening College only. (3-0)

Mech Tech 281 Quality Control 3 Sem Hrs

Prerequisite: Mathematics 102 or equivalent. Designed for individuals in industry who are interested in the basic philosophy of quality control and those interested in developing special skills in quality management. Included in the course are general concepts of data analysis and variation, basic probability concepts, quality control charting, machine and process capability studies, and acceptance sampling procedures. (3-0)

Mech Tech 282 Theory of Foundry Practices 3 Sem Hrs

Prerequisite: None. The course is designed to acquaint the student with foundry practices and the theoretical bases for them. Subjects covered include properties of liquids, pure metals and alloys, equilibrium and non-equilibrium solidification, gating and feeding of castings, cast iron metallurgy, molding and sand technology, refractory and melting practice, finishing operations, casting inspection, and casting design. Offered in Evening only. (3-0)

Mech Tech 290-299 Special Problems In Mechanical Technology

(See Page 49)

RESIDENTIAL CONSTRUCTION

RC 101 Construction Print Interpretation 3 Sem Hrs

Prerequisite: None. Instruction in this course includes trade terminology and description of the various views of working drawings, pictorial drawings, and the basic procedures in development of these drawings. Also included is the interpretation of specifications and job information as they pertain to construction and layout. (3-0)

RC 102 Building Materials 4 Sem Hrs

Prerequisite: None. A study of the basic building materials used primarily for residential construction. (4-0)

RC 103 Framing Square 5 Sem Hrs

Prerequisite: None. A specialized course in carpentry mathematics and the use of the framing square. Instruction will include practical mathematics as it applies to a carpenter and practical application in the use of the framing square as in roof framing and stair framing. (5-0)

RC 104 Construction Laboratory I 2 Sem Hrs

Prerequisite: None. A course centered around the care and use of wood working tools. Included is a study of tool terminology, purpose and uses of various tools and the functional principles of woodworking hand tools, including those which are power or pneumatically driven. (1-3)

RC 105 Building Site Surveying 5 Sem Hrs

Prerequisite: RC 103. A course designed to introduce students to the tools and instruments used for surveying. Methods and procedures of developing a building layout are also included. (5-0)

RC 106 Concrete Slab Work 4 Sem Hrs

Prerequisite: RC 102. A study of the practical methods and procedures of preparing and setting concrete forms for such areas as basement floors, garage floors, driveways, sidewalks, patio, etc. (4-0)

RC 107 Footings and Foundations 5 Sem Hrs

Prerequisites: RC 101, RC 102, RC 103. This course offers instruction in layout principles and construction methods of form buildings, trade, terminology, characteristics of concrete, and techniques of mixing and placing concrete. (4-3)

RC 201 Rough Framing and Outside Finishing 5 Sem Hrs

Prerequisite: RC 103. Instruction is given in the construction of techniques used in all phases of framing and exterior finishing. (4-3)

RC 202 Building Materials Estimation 3 Sem Hrs

Prerequisites: RC 102, RC 103. A course designed to introduce the methods and procedures commonly used in determining the costs of construction materials. (3-0)

RC 203 Construction Laboratory II 5 Sem Hrs

Prerequisites: RC 103, RC 104. A course designed to allow time for practical application of the various construction procedures that are typically encountered on the job. Problem solving is a feature to this course. (3-6)

RC 204 Inside Finishing and Hardware 5 Sem Hrs

Prerequisites: RC 103 and RC 104. Instruction includes principles of interior construction, joinery and installation and finishing of all types of interior trim. (4-3)

RC 205 Cabinet Making and Millwork 5 Sem Hrs

Prerequisites: RC 201, RC 202, and RC 203. A study is made of the construction of, the placement of and installation procedures of cabinets used in residential buildings. (4-3)

RC 206 Electrical-Mechanical-Plumbing Equipment 3 Sem Hrs

Prerequisites: RC 201, RC 202, and RC 203. A course designed to study the involvements of equipment installation as they pertain to construction and carpentry.

RC 290-299 Special Problems in Residential Construction

(See Page 49)

COMMUNITY SERVICES

COMMUNITY EDUCATION PROGRAMS

Delta College Community Education serves the needs of the community which are not met by two year degrees or academic certificate programs.

Community Education includes self-development, individual goals, community development and goals of organizations and groups.

Self-Development describes the activities designed to change and improve the lives of individual participants through planned educational and counseling experiences.

Community Development describes the activities which focus upon cooperative efforts with community organizations, associations and agencies to improve the social, physical, economic, and political environment of the community, such as housing, transportation, air pollution, human relations, and public safety.

Community Education opportunities are primarily designed for adults, and offer learning experiences more conducive to adult learning than conventional methods.

PERSONAL COUNSELING

This service provides opportunities for development through individual and group counseling. This includes aptitude-interest testing, G.E.D. counseling, career information, job placement, individual interviews, as well as education direction.

Included here are courses and workshops offered through the Delta College Human Relations Institute.

EDUCATIONAL EXTENSION

This service is designed to increase educational opportunities to the community by locating classes in the community itself. This is done through establishing evening classes in a variety of locations, including classes in cooperation with local schools, churches, government agencies, private associations, television courses through Channel 19 and neighborhood extension centers.

EDUCATION EXPANSION

This service proves educational programming designed to reach beyond the limitations of College credit restrictions. The programs stress the upgrading of skills as well as the learning of new career occupations.

SOCIAL OUTREACH

This service deals with the continuing social problems of our tri-county community and seeks answers to the critical issues facing our service area.

CULTURAL DEVELOPMENT

This service offers opportunities for individual community members to participate in a wide variety of cultural activities including arts tours at home and abroad, drama courses on location in community theaters, crafts and arts programs both on campus and in the community and self-development through other forms of creative involvement.

LEISURE TIME ACTIVITY

This service encourages community members to participate in a variety of hobby and recreational activities, such as sports instruction, senior citizens' activities, and such unusual courses as Interior Decoration, Taxidermy, Photography, Yoga, Poodle Grooming, Hypnotism, etc.

CERTIFICATE PROGRAM ACTIVITIES

Community Education offers the following certificate programs. Upon completion of the requirements for each sequence, a certificate is awarded to the student. Many employers encourage employee education through tuition reimbursement for these programs.

- Legal Secretaries
- Medical Assistant
- Certified Professional Secretaries
- Stationary Boiler Fireman
- Income Tax Practices
- Chartered Life Underwriters
- Home Builders Series
- Plumbing
- Blue Print Reading
- ABC Shorthand
- Law Enforcement
- Auto Mechanics' Series
- Electricians' Series
- Professional Engineering Refresher
- Labor Union Education

WOMEN'S PROGRAM

The Women's Program offers day and evening, short and extended courses, seminars, and workshops designed to provide enrichment for adult women. Women's Programs also operate as a referral agent for those who wish to pursue an academic degree. Representative programming includes Clothing & Design, Food & Nutrition, Home Management & Child Care, Interior Decor & Home Furnishings, Writing, Crafts & Arts, and Holiday Idea Workshops. Courses are offered for both service and certificate credit.

AWARENESS FOR WOMEN

A lecture series entitled Awareness For Women, provides an insight into the changing role of women in modern society and includes facets of expression and self-realization for today's woman to explore.

Professional lecturers include psychologists, psychiatrists, sociologists, economists, authors, physicians, etc. Since all women cannot find the flexibility of scheduling classroom work into daily schedules, the lecture series is incorporated with Opportunity for Outreach, a course that does not require attendance on the college campus.

Through the publication of "In Touch" a student can enroll in the course and subscribe to the brochure which serves as a clearing house for the bits and pieces of information that cross the college desks daily. Consumer information, current events both locally and nationally, dialogue on youth, social problems, work saving hints, and travel items are some of the items included in the brochure. The objective of "In Touch" is to keep the woman better informed and more aware of the happenings she would need to know or would like to know about.

THE PORTFOLIO SERIES

The Portfolio Series: Have Program Will Travel takes Delta College into the Community. Courses in the Portfolio introduce a specific topic to a group and stimulate the guest for additional information. All programs are held off-campus and are scheduled by citizens in church meeting rooms, community centers, restaurants, and other suitable places. The programs will be presented at the request of a specific organization or interested group.

WOMEN'S OPPORTUNITIES WORKSHOP

Since millions of American women are working and millions of others want to, the Women's Opportunities Workshop provides assistance in the following areas: pre-work insight, awareness of work opportunities that exist, testing and counseling, transition into academic work, training for a new career and up-grading previous training skills.

Refresher courses are offered in economics, oral communications, math, spelling, correct English usage, grooming, human relations, and the art of self selling and acquiring confidence.

Opportunities for training exist in the following areas: Clothing Alterations, Day Care, Retailing, Typing and Filing, Nutrition Aid, and Introduction to Executive Maintenance, Beginning Typing and Filing, Typing and Filing Enrichment, Beginning Stenography, Stenography Enrichment, The Psychology of the Office, Beginning Office Machines, Teacher Aid Training, Beginning Real Estate Sales. Along with the development of a Counseling Center, G.E.D. Preparation and Qualification Testing will be included in future workshops. To date, The Workshop has assisted ADC (Aid to Dependent Children) mothers in training and counseling to help remove them from the welfare rolls.

LET US KNOW

All workshop training, special courses, and seminars on contemporary life are open to the community. Programs for Women are developed upon request and as a response to need. If you would like the Office of Women's Programming to offer a particular course or program, contact Delta College.

CONFERENCE DEVELOPMENT

The Office of Conference Development provides services to community organizations and college groups in the planning of conferences, including workshops, seminars, institutes or lectures.

Conference services include:

1. Planning program content and format, speakers and consulting.
2. Costs and registration fees.
3. Housing, meals and meeting rooms.
4. Programs, announcements, registration materials, meal tickets, badges and other items.
5. Mailing programs and registration materials.
6. Registration.
7. Audio-visual aids and recording equipment with a trained operator.
8. Publicity and public relations.
9. Tours and entertainment.
10. Conference rosters.
11. Publication of conference proceedings and results.
12. Open and closed circuit television.
13. Evaluation of conference.

ADVISORY COMMITTEES

The advisory committees at Delta College serve as a bridge of communication between the educator and the career world.

Advisory Committees consist of employers, organizations and employees within a particular field, as well as Delta College personnel. They assess and evaluate manpower needs, immediate and future, and provide descriptions of career skills needed. Established programs with similar objectives are researched or data is collected about the need for new programs.

In the development and evaluation of career entry and up-grading programs, there are over 350 tri-county residents representing their specific fields of work, including health, technical, business and public service areas.

The Advisory Committee is a vital part of the function upon which a community college builds its academic programs.

CULTURAL ACTIVITIES

Cultural interests of the Delta College Community are given a wide range of expression. Perhaps most typical of the numerous cultural events are those found in the Summer Festival of Arts, which offers ballet, creative writing, a summer conservatory of music, a seminar in theater, crafts & arts and photography. Also a part of the summer program are the Concerts in the Court, chamber music and opera which have been widely acclaimed by patrons of the Saginaw Valley Area.

The Delta College Fine Arts Series has brought to the campus a variety of lecture and concert performances throughout the school year. Available to the general public, these events are offered to students at a nominal cost. Also available to students at a nominal cost or with no admission charge, are most of the major musical, theatrical, and artistic events of the larger communities. Displays of art by Delta students and by students of public and parochial schools, are supplemented by "Traveling Shows" designed to enrich the aesthetic experience of Delta students.

WUCM-TV (CHANNEL 19)

Television facilities at Delta College provide an educational opportunity for the tri-county area comparable to that available in some of the largest metropolitan centers of the United States.

As a logical extension of the community service responsibility of a community college, Delta College owns and operates WUCM-TV Channel 19, a public broadcasting station, affiliated with national and regional educational networks.

The responsibility of television at Delta College is to provide educational, cultural and public affairs programs to the residents of the district which Delta serves. To fulfill this responsibility, WUCM-TV broadcasts daily instructional programs to public and parochial schools; training programs to business and industry; children's programs cultural programs, and public affairs programs to the general home audience.

TOURS AND SPEAKERS

College-wide tours are available to all interested persons and are conducted by either the student Tour Bureau or representatives of Community Affairs Office. Special tours of television, WUCM-TV (Channel 19), and the Data Processing Center, are conducted by experienced staff members. Tours range from 30 to 90 minutes and may be combined with a planetarium showing.

Delta College's Speakers Bureau provides speakers for any professional, civic or service organization and for schools and interested groups. College faculty and staff members are available to speak on a wide range of topics.

For more information, contact the College Relations Office.

PLANETARIUM

The Delta College Planetarium is located in Room B-203 at the northeast corner of the college. The facility is available to organizations and groups of individuals without charge.

Arrangements for planetarium shows are made through the College Relations Office, Ext. 206. The sky is presented as it appears at any time of the day or night for any time in the past or future from any point on earth. The Planetarium can improve on nature with projection devices that are helpful analytical tools necessary in the study of space science and by relating astronomy to other subjects such as mathematics and geography.

By showing the student what happens and how to observe it, the Planetarium quickens the student's imagination while encouraging him to learn the reason why. The Planetarium offers an experience which aids clear conceptualization, faster learning and longer retention.

As a visual aid the facility is not an end in itself but one which, when used wisely in conjunction with the traditional classroom in pre-planetarium orientation and follow-up, can provide an excellent program involving hundreds of students each year.

Some areas in which the Planetarium can be helpful are:

1. **Teachers Workshops.** A series of programs to acquaint elementary and high school teachers with the nature of space and the astroscience lab. (Sponsored by Senior University).
2. **Elementary School.** A series of programs integrated into their units in grades three to eight.
3. **Special Events.** A special program for general education concerning a certain event, either natural or planned, in space.
4. **Clubs.** Special programs devoted to particular interest of these groups in such areas as celestial navigation, radio astronomy and extra-terrestial life.
5. **Community.**
   a. Adult lecture series.
   b. Saturday morning youth groups.
   c. Evening industrial, civic, and general community groups.
6. **Testing.** Provided for groups taking part in the evaluative program, to determine the amount of measurable learning taking place during a particular Planetarium visitation.

COMMUNITY DEVELOPMENT

Delta College faculty, students and staff, as well as supportive physical resources, make community research and study available to qualified organizations. Faculty and staff combine as individual and interdisciplinary consulting teams to provide a further source of community development.

Studies as diverse as the needs of senior citizens to computerizing high school administrative functions are typical community development services.

The data census bank at Delta College, for example, has stored on computer the latest census information. This information will be made available to the business-industrial sector of the tri-counties upon request.

Another example is the Student Volunteer Program. Over 150 students volunteer their time in agencies as various as Legal Aid, inner-city projects, hospital units, senior citizens organizations and many other federal programs and state and local agencies.

At present, several offices are involved in community development. However, primary responsibility rests with the Offices of Research and Development, Community Affairs, and College Relations.

EMERITUS FACULTY

Devol, Lloyd (1961-1963)
Elkin, Cova (1961-1968)
Ewing, Meta (1961-1964)
Freed, Samuel (1961-1969)
Fritzemeier, Hulda (1961-1968)
Gase, Florence (1962-1968)
Hellmuth, Erma (1961-1963)
Omans, Margaret (1961-1963)
Parks, Dr. Harry (1961-1970)
Plum, Kathleen (1961-1966)
Williams, Fred (1961-1963)
Wilson, George (1961-1968)
Wilson, Zane (1961-1966)

Adams, Lorne P. — Associate Professor of Physics and Chemistry
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Alberda, Maurice S., Jr. — Associate Professor of English and Chairman of English Division
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M.A. University of Michigan

Altenhof, Carl L. — Associate Professor of Biology
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M.S. University of Michigan

Anderson, Geraldine R. — Assistant Professor of English
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M.A. University of Michigan

Argyle, Roselyn D. — Clinical Associate, Division of Nursing
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B.A. Saginaw Valley College

Arman, Harold D. — Assistant Professor of Political Science
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M.A. New York University

Bauer, Chal S. — Coordinator of Radiologic Technology
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Berlin, Rosalind K. — Instructor in Art
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Berry, Darrell R. — Instructor in Machine Tool
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Blackwell, Dana E. — Instructor in English
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M.A. Virginia Polytechnic Institute

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J.D. University of Wisconsin

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Ph.D. (Honorary) Nihon University

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M.A.T. Indiana University

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M.B.A. Central Michigan University

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Academic Information 17
Accounting
  Major requirements 34
  Description of courses 50
Accreditation 9
Administration 91
Admissions Information 13
Agriculture 31
Agriculture Courses 67
Airline Hostess 35
Airline Hostess(clerical) 35
Architecture and Design 27
Architectural Technology
  Major requirements 45
  Description of courses 74
Art 59
Associate Degrees Information 19
Automotive Technology
  Major requirements 46
  Description of courses 75
Automotive Service 46
Automotive Service (Specialist) 47
Aviation Courses 67

Basic Science Courses 67
Biology Courses 67
Bookstore 23
Botany Courses 67
Broadcasting
  Major requirements 43
  Description of courses 62
Business Administration 30
Business Career Programs 33
Business Communication Courses 53
Business Machine Courses 51
Business (General) Courses 53
Business Education 27
Building Materials and Mgt. 36
Business Management (Small) 37
Bus Transportation 23

Career Programs 33
Calendar 1971-73 4
Chemical Technology
  Major requirements 47
  Description of courses 68
Chemistry
  Major requirements 27
  Description of courses 68
Continuing Education 10
Community Affairs Information ... 10 & 80
Conservation 27
Cooperative Education Courses 52
Cooperative Education Information 33
Counseling Services 21
Course descriptions 49

Data Processing (Transfer) 31
Data Processing (Career) 37
  Description of courses 52
Dental (Pre) 27
Dental Assistant 27
  Major requirements 41
  Description of courses 65
Dental Hygiene 65
Distributive Education 53
Drafting
  Major requirements 47
  Description of courses 76
Economics Courses 71
Education (See specific major) 30
Electronic Technology
  Major requirements 48
  Description of courses 77
Elementary Education 30
Employment Information 23
Engineering (Pre) 30
Engineering Assistant 43
English Courses 55

Faculty 83
Filing Courses 53
Financial Information 15
Finance and Banking 37
Fire Protection 69
Forestry 27
French Courses 60

General Information 9
General Marketing 38
Geography Courses 69
Geology Courses 70
German Courses 60
Graduation Requirements 19
Grading Scale 17

Health Science 65
Health Services 21
History Courses 71

Housing Information 21
Hotel Administration 27

Industrial Arts 27
Industrial Management 27
Industrial Supervision
Instrument Technology
  Major requirements 48
  Description of courses 65

Journalism Courses 56

Law (Pre) 27
Law Enforcement
  Major requirements 44
  Description of courses 72
Learning Resources Center 11
Library Science 61
Literature Courses
Loan Funds 22

Mathematics Courses 63
Mechanical Technology
  Major requirements 49
  Description of courses 78
Medical Assistant 38
Medical Technology 27
Medicine (Pre) 27
Mortuary Science 27
Music Courses 61

Nursing (B. SC.) 27
Nursing R.N.
  Major requirements 42
  Description of courses 65

Parking 23
Pharmacy (Pre) 27
Philosophy Courses 62
Physical Education (Health)
  Major requirements 27
  Description of courses 57
Physical Science Courses 73
Physics Courses 70
Placement 23
Political Science Courses 73
Psychology Courses 74
Publications 25
Public Health (Pre) 27

Radio-Television Courses 62
Radiologic Technology (X-Ray)
  Major requirements 42
  Description of courses 66
Real Estate (Major) 39
Real Estate Courses 54
Records and Transcripts 15
Refund Policy 15
Registration 21
Residential Construction
  Major requirements 49
  Description of courses 79
Russian Courses 60

Scholarship Information 22
Secretarial (One Year) 34
Secretarial 40
Secretarial (Chemical) 40
Secretarial (Legal) 40
Secretarial Science Courses 54
Social Health Services Assistant 44
Sociology Courses 74
Spanish 61
Speech Courses 63
Student Activities 24
Student Services 21

Technical Career Programs 45
Television 81
Testing 21
Transportation and Traffic 41
Transfer Programs 27
Tuition Information 15

Urban Professional Assistant
  Major requirements 45
  Description of courses 73

Veterinary (Pre) 27
Veteran's Benefits 23

Withdrawal Information 15
Who To Contact at Delta College 11